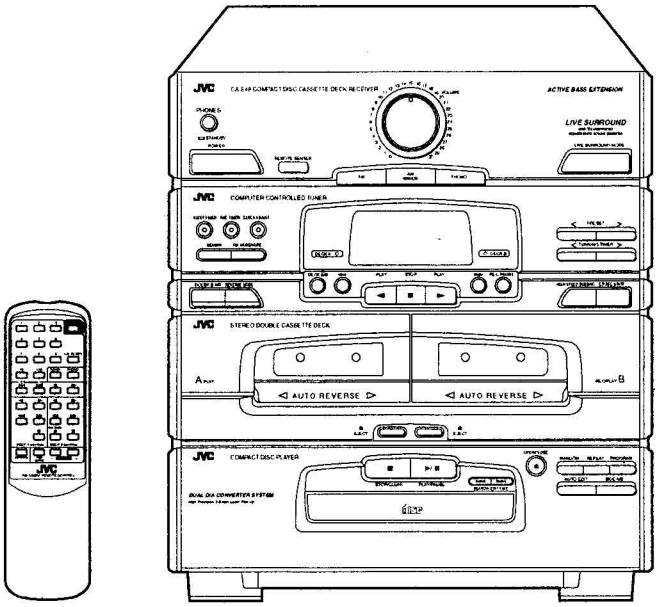
JVC

SERVICE MANUAL

COMPACT DISC CASSETTE DECK RECEIVER

CA-E48BK



COMPACT disc DIGITAL AUDIO

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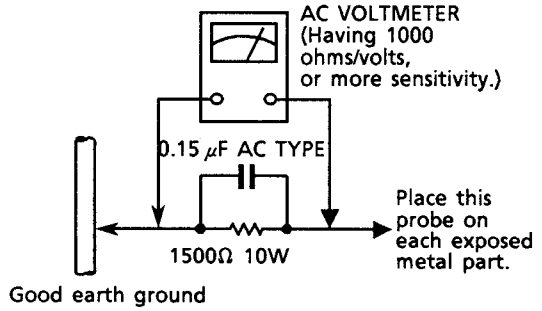
No. 204
Aug. 19

Safety Precautions

1. The design of this product contains special hardware and many circuits and components specially for safety purposes. For continued protection, no changes should be made to the original design unless authorized in writing by the manufacturer. Replacement parts must be identical to those used in the original circuits. Services should be performed by qualified personnel only.
2. Alterations of the design or circuitry of the product should not be made. Any design alterations of the product should not be made. Any design alterations or additions will void the manufacturer's warranty and will further relieve the manufacture of responsibility for personal injury or property damage resulting therefrom.
3. Many electrical and mechanical parts in the products have special safety-related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in the Parts List of Service Manual. Electrical components having such features are identified by shading on the schematics and by (⚠) on the Parts List in the Service Manual. The use of a substitute repalcement which does not have the same safety characteristics as the recommended replacement parts shown in the Parts List of Service Manual may create shock, fire, or other hazards.
4. The leads in the products are routed and dressed with ties, clamps, tubings, barriers and the like to be separated from live parts, high temperature parts, moving parts and/or sharp edges for the prevention of electric shock and fire hazard. When service is required, the original lead routing and dress should be observed, and it should be confirmed that they have been returned to normal, after re-assembling.
5. Leakage currnet check (Electrical shock hazard testing)
   After re-assembling the product, always perform an isolation check on the exposed metal parts of the product (antenna terminals, knobs, metal cabinet, screw heads, headphone jack, contorl shafts, etc.) to be sure the product is safe to operate without danger of electrical shock.
   Do not use a line isolation transformer during this check.
   - Plug the AC line cord directly into the AC outlet. Using a "Leakage Current Tester", measure the leakage current from each exposed metal parts of the cabinet, particularly any exposed metal part having a return path to the chassis, to a known good earth ground. Any leakage current must not exceed 0.5mA AC (r.m.s.).
   - Alternate check method
     Plug the AC line cord directly into the AC outlet. Use an AC voltmeter having, 1,000 ohms per volt or more sensitivity in the following manner. Connect a 1,500Ω 10 W resistor paralleled by a 0.15 μF AC-type capacitor between an exposed metal part and a known good earth ground.
     Measure the AC voltage across the resistor with the AC voltmeter.
     Move the resistor connection to each exposed metal part, particularly any exposed metal part having a return path to the chassis, and meausre the AC voltage across the resistor.
     Now, reverse the plug in the AC outlet and repeat each measurement. Any voltage measured must not exceed 0.75 V AC (r.m.s.). This corresponds to 0.5 mA AC (r.m.s.).



Warning

1. This equipment has been designed and manufactured to meet international safety standards.
2. It is the legal responsibility of the repairer to ensure that these safety standards are maintained.
3. Repairs must be made in accordance with the relevant safety standards.
4. It is essential that safety critical components are replaced by approved parts.
5. If mains voltage selector is provided, check setting for local voltage.

Important for Laser Products

1. CLASS 1 LASER PRODUCT
2. DANGER : Invisible laser radiation when open and interlock failed or defeated. Avoid direct exposure to beam.
3. CAUTION : There are no serviceable parts inside the Laser Unit. Do not disassemble the Laser Unit. Replace the complete Laser Unit if it malfunctions.
4. CAUTION : The compact disc player uses invisible laser radiation and is equipped with safety switches which prevent emission of radiation when the drawer is open and the safety interlocks have failed or are defeated. It is dangerous to defeat the safety switches.
5. CAUTION : If safety switches malfunction, the laser is able to function.
6. CAUTION : Use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
7. CAUTION : The compact disc player provides a laser diode of wavelength 780-790nm and optical output power typical 3mW at the laser diode.

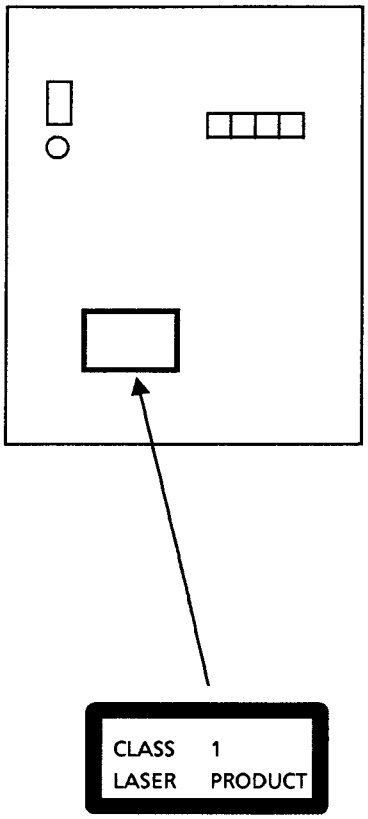
VARNING : Osynlig laserstrålning när denna del är öppnad och spärren är urkopplad. Betrakta ej strålen.

VARO : Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen.

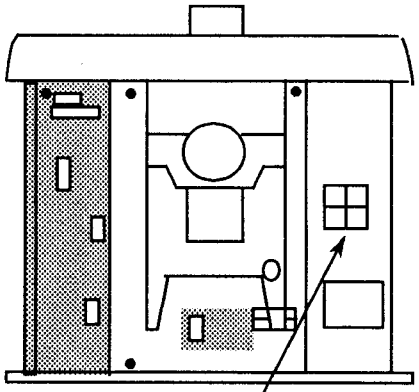
ADVARSEL : Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

ADVARSEL : Usynlig laserstråling ved åpning, når sikkerhetsbryteren er avslott. unngå utsettelse for stråling.

REPRODUCTION AND POSITION OF LABELS



CLASSIFICATION LABEL



WARNING LABEL

DANGER: invisible laser radiation when open and interlock failed or defeated. AVOID DIRECT EXPOSURE TO BEAM. (e)	VARNING: Osynling laserstråling när denna del å öppnad och spärren är urkoppled. Betrakta ej stålen. (s)
ADVARSEL: Usynling laserstråling ved åbning, når sikkerhedsafbrydere er ude at funktion. Undgåudsættelse for stråling. (d)	VARO: Avattaessa ja suojalukitus ohitettaessa olet alttiina näkymättömälle lasersäteilylle. Älä katso säteeseen. (f)

Great Sound

Easy Operation

COMPU PLAY

Features

Here are some of the things that make your CA-E48BK powerful and easy to use.

- To get such **great sound** from such a compact package the CA-E48BK has pre-programmed sound effects like **DANCE CLUB, HALL, STADIUM,** and **LIVE SURROUND** so you don't have to be a sound engineer to get great effects. **ACTIVE BASS EXTENSION** automatically works to maintain the richness and fullness of the sound when the volume level becomes lower.

- The controls and operations have been redesigned to make them very easy to use so you can spend your time listening to music.
  - With the One Touch Operation feature of JVC's new **COMPUPLAY** you can turn on the CA-E48BK and start the radio, the tape deck, or the CD player with a single touch.
  - Two timers, **SLEEP,** and **REC TIMER** are extremely easy to set so you can really use them.
  - The **Display area** is large and clear. It's organized so you can tell at a glance what's happening because functions light up as you use them, and blink to tell you they are ready.
  - **Auto Edit** figures out how to arrange CD tracks on a tape. When you are recording a tape from a CD, the selections aren't cut off if the tape ends before the selection does.

IMPORTANT CAUTIONS

1. **Installation of the Unit**
- Select a place which is level, dry and neither too hot nor too cold (between 5°C and 35°C).
- Leave sufficient distance between the Unit and your TV.
- Do not use the Unit in a place subject to vibrations.

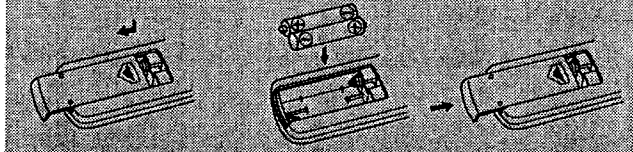
2. **Power cord**
- Do not handle the power cord with wet hands!
- When unplugging from the wall outlet, always pull on the plug, not the power cord.

3. **Malfunctions, etc.**
- There are no user serviceable parts inside. If anything goes wrong, unplug the power cord and consult your dealer.
- Do not insert any metallic object into the Unit.

How to Put Batteries in the Remote Control

Match the polarity (+ and -) on the batteries with the + and - markings on the battery compartment.

R6(SUM-3)/AA (15F)

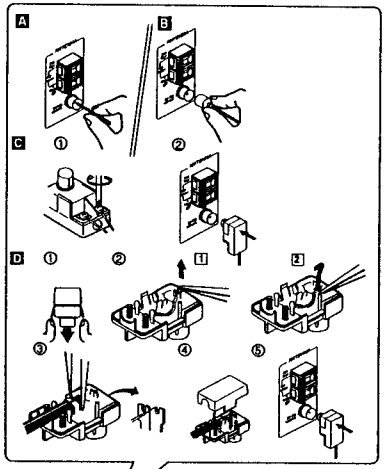


CAUTION: Observe Proper Handling of Batteries.
To avoid battery leakage or explosion:
- Remove batteries when the Remote will not be used for a long time.
- When you need to replace the batteries, replace both batteries at the same time with new ones.
- Don't use an old battery together with a new one.
- Don't use different types of batteries together.

Connection Diagrams and Instructions

Connecting the AM(MW/LW) and FM Antennas

FM Antenna Connections



For Germany

A **Using the Supplied Wire Antenna**
The FM wire antenna provided can be connected to the FM 75-ohm COAXIAL as a temporary measure.

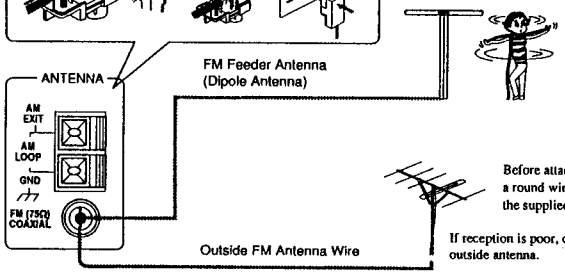
B **Using the Coaxial Type Conector (Not Supplied)**
A 75-ohm antenna with coaxial type connector (DIN 45332) should be connected to the FM 75-ohm COAXIAL terminal.

For Other Countries

C **Using the Supplied Dipole Feeder Antenna**
① Attach the feeder antenna to the Antenna Adaptor.
② Connect the Antenna Adaptor to the FM 75-ohm COAXIAL terminal.

D **Using FM 75-ohm Antenna Cable (Not Supplied)**
① Open the claws at both sides of the Antenna Adaptor and remove the cover.
② Move the conductor wire from terminal 1 to 2 using tweezers or similar tool. Make this connection only when using coaxial cable.
③ See the next diagram "How to strip the 75-ohm coaxial cable" to prepare and insert the coaxial cable into the Antenna Adaptor.
④ Put on the cover.
⑤ Connect the Antenna Adaptor to the FM 75-ohm COAXIAL terminal.

Note:
Make sure the antenna conductor does not touch any other terminals, connecting cords or the power cord on the system.
If it does, electrical interference may cause poor reception.

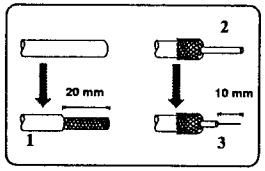


For Germany
Extend the supplied wire antenna horizontally.

For Other Countries
Unfold the loops of the supplied dipole FM feeder antenna and extend them as shown. Fasten them up in the position which gives you the best FM reception.

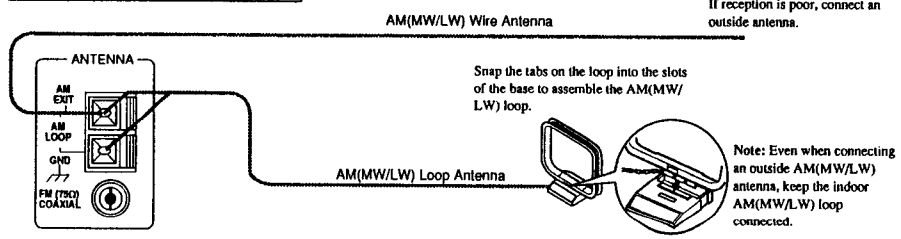
Before attaching a 75 ohm coaxial lead (the kind with a round wire going to an outside antenna), disconnect the supplied dipole indoor antenna.

If reception is poor, connect an outside antenna.



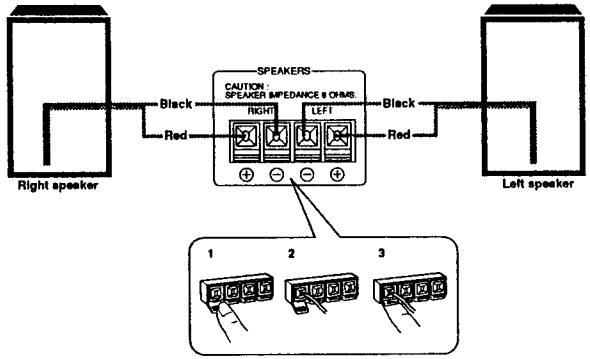
How to Strip the 75-ohm Coaxial Cable
1. Strip back the outside covering of the 75 ohm coaxial cable to expose the braided metallic mesh.
2. Pull the mesh back and twist into a single connector as shown.
3. Strip the insulation about 10 mm back from the central wire.
4. Attach to the supplied Antenna Adaptor, as shown in the diagram above.

AM(MW/LW) Antenna Connections


AM(MW/LW) Wire Antenna
If reception is poor, connect an outside antenna.
ANTENNA
AM EXT
AM LOOP
GND
FM (75Ω) COAXIAL
Snap the tabs on the loop into the slots of the base to assemble the AM(MW/LW) loop.
AM(MW/LW) Loop Antenna

Note: Even when connecting an outside AM(MW/LW) antenna, keep the indoor AM(MW/LW) loop connected.

Connecting the Speakers



For each speaker connect one end of the speaker wire to the speaker terminals on the back panel of the CA-E48BK carefully following these steps.
On the back panel:

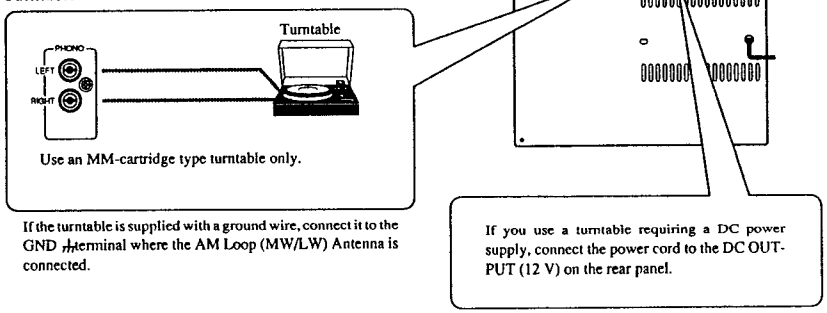
1. Open each terminal.
2. Insert the end of the speaker wire as shown (be sure to remove the insulation at the end of each wire first).
3. Close the terminals to clamp the speaker wires firmly in place.
4. Connect the red (+) and black (–) wires of the right side speaker to the red (+) and black (–) terminals marked RIGHT on the CA-E48BK.
   Connect the red (+) and black (–) wires of the left side speaker to the red (+) and black (–) terminals marked LEFT on the CA-E48BK.

IMPORTANT: Match the polarity of the speaker wires with the polarity of the terminals on the CA-E48BK, red (+) to red (+) and black (–) to black (–). Check your speakers for correct impedance: use only 6 ohm speakers.

Connecting a Turntable

When recording an AM(MW/LW) broadcast program, beat sounds may be heard and recorded.
Set the BEAT CUT selector to either 1 or 2, so that beat sounds will not be heard nor recorded.

Turntable


Turntable
PHONO
LEFT
RIGHT
Use an MM-cartridge type turntable only.
If the turntable is supplied with a ground wire, connect it to the GND terminal where the AM Loop (MW/LW) Antenna is connected.
If you use a turntable requiring a DC power supply, connect the power cord to the DC OUT-PUT (12 V) on the rear panel.

Read Me First

How to get the most for your money by using this manual.

The Engineers at JVC have made the CA-E48BK very easy to use, and if you are experienced using audio equipment, you can figure out how to use some of the CA-E48BK controls by yourself. However, we have built some new features into this model, which you can learn about easily from the manual.

If you are a new user or just want a review, this manual explains how to use the CA-E48BK and take advantage of its features for playing and recording music, as well as other sounds. One way to use this manual is to read it through now and refer back to it when you need to refresh your skills for some special operation. Of course you can just look up the topics, such as recording a CD, that you want to do, but remember that you may need to refer to other parts of the manual for some of the instruction: for instance, in explaining how to record a CD, we assume you already know how to load a CD. That's why we recommend that you read the manual through once before starting. We've made it short, and easy to follow.

However, before you proceed, please read the IMPORTANT CAUTIONS on page 2 and the set-up directions.

IMPORTANT!
Special features for a special Manual.

How This Manual Is Organized

This is a special manual, designed to accommodate several languages. To keep the size from becoming too great, yet still give you a top quality instruction manual, we have incorporated some special features:

- A fold-out page to look at while you read the instructions shows the front controls of the CA-E48BK. Some procedures have the illustrations of which control to use right with them, and for some you will need to look at the fold-out for the illustration.
- Basic information that is the same for many different functions is grouped in one place, and not repeated in each procedure. For instance, in the section on playing a CD, we do not repeat the information about setting the volume and the sound conditioning, which are talked about in the Common Operations section.
- Names of buttons, controls and function names that light up on the display panel are written in all Capital letters like this: POWER.
- When we are talking about the Function, rather than the BUTTON or DISPLAY, then we just capitalize the first letter of the words.
- The ☞ alerts you to important information or how to solve special problems that may occur when using the CA-E48BK.

The column on the left of the page is a special place to make it easier to find just what you want to know about, with little headlines announcing what each part of the page is about. Sometimes illustrations and helpful hints are placed here also.
Basically we use three kinds of information to help you understand and use the CA-E48BK:

- ❑ Information about what you can do (such as record a CD or preset a radio station) and how the Unit is designed to make doing this activity easy.
- ❑ Procedures, usually numbered in the order you do the steps, to guide you in exactly what to do to accomplish something, such as tune a radio station or record a tape.
- ❑ Information you need to know to make decisions about which functions of the CA-E48BK to use for particular tasks (such as when to use Dolby NR to improve tape sound) and special hints to make your work go smoothly, like reminding you to set the sound effects before starting the CD to tape recording, since they cannot be changed once recording begins without starting completely over.

The manual has a table of contents to help you easily look up what you want to know.
We've enjoyed making this manual for you, and hope you will use it to enjoy the sound and many features built into your CA-E48BK.

(No. 20442)

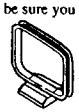
Getting Started Right

Unpacking

Inside the packing box....

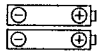
Of course you have already opened your CA-E48BK carton, since you are reading this manual. Although the Unit is quite sturdy, you may want to save the packing to re-pack your CA-E48BK in case you are moving it some distance.

Check to be sure you have all of the following things, which are supplied with the CA-E48BK:



AM (MW/LW) Antenna

Remote Control



Batteries

FM Wire Antenna (only for Germany)

FM Feeder Antenna (except for Germany)

Antenna Adaptor (except for Germany)

If anything is missing, contact your dealer immediately.

Location

Where can you put it?

You can place the CA-E48BK in many different kinds of locations to suit your needs; just observe the cautions on page 2: keep away from moisture and heat; leave some space between the Unit and its surroundings, more than 7/16 inch (1 cm) at the sides of the console and 4 inch (10 cm) at the back.

Set Up

Very little assembly required

You will need to do the following four things to get your CA-E48BK ready to use.

1. Connect the Antenna(s).
2. Connect the Speakers.
3. Put Batteries in the Remote Control.
4. Connect a turntable (Optional).

1. Connect the Antenna(s)

Please look at the diagrams on pages 3 and 4 to do these things.

Follow the diagrams on page 3. Here's what you need to know:

- For AM(MW/LW) reception you must connect the supplied loop antenna. If reception is poor, connect an outside antenna, but leave the loop antenna in place—the AM(MW/LW) will not work correctly without it.
- For FM reception, connect the supplied FM antenna as shown. However, if you use an outdoor antenna, disconnect the supplied FM antenna first.
- To avoid noise, keep antennas away from metallic parts of the CA-E48BK, connecting cords and the AC power cord.

2. Connect the Speakers

Basically, you look at the diagrams on page 4 and follow the pictured instructions.

3. Put Batteries in the Remote Control

Pay close attention to getting the batteries in correctly—we've made it very easy, just match the + and - marks on the batteries with the + and - markings on the Remote. See page 2 for instructions

CAUTION: Handle batteries with care. See page 2 for proper use of batteries.

4. Connect a Turntable (Optional)

By playing the sound of a turntable through the CA-E48BK you can have excellent sound from your records. The diagram on the bottom of page 4 shows you how to connect a turntable to the CA-E48BK.

CAUTION: First make all connections before plugging the Unit into any AC power outlet.

Read on and find out how to use the many features built into your Unit.....

Common Operations

Here are the things that apply to all the functions of your CA-E48BK. If something in a procedure is unclear to you, check back here.

COMPUPLAY

The Magic of

COMPUPLAY is JVC's new feature that lets you control the most used functions of the CA-E48BK with a single touch. This One Touch Operation starts playing a CD, turns on the radio or plays a tape with a single press of the play button for that function. What One Touch Operation does for you is to turn the power on, then start the function you have called for. If the Unit is not ready, such as no CD or tape in place, the Unit still comes on and then pauses so you can put in a CD or tape.

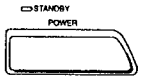
How One Touch Operation works in each case is explained in the section about that function.

Turning the CA-E48BK On

Press POWER; the STANDBY indicator goes out.

- The CA-E48BK comes on ready to do whatever it was doing when the power was last shut off. So if the last thing you were doing was listening to a tape in deck B, you now are ready to listen to a tape again in deck B, or you can change to another source.
- If you were listening to the radio last, the radio comes on playing that last station.

Be sure to read the caution at the end of this section concerning sound levels, and possible damage to your hearing or the equipment.



Turning the CA-E48BK Off

Press POWER again; the STANDBY indicator lights up and the display goes blank, except for the clock display.

- A small amount of power (13 watts) is always used even in stand-by mode.
- To completely shut off power to the unit, unplug the AC power cord from the AC outlet.

Controlling the Sound

Making it sound the way *You* want it to:

The same set of buttons and knobs control the sound, no matter which function is producing it. Here we will briefly explain how these controls work, and how you can use them to increase your enjoyment of the music.

Volume Control

•Volume

Rotate clockwise to increase loudness, counter-clockwise to reduce loudness. Be sure to read the caution at the end of this section about high sound levels damaging your hearing or your equipment.

Special Effects Control

•LIVE SURROUND
•DANCE CLUB
•HALL
•STADIUM

The four preset special effects to condition your sound output are selected with the LIVE SURROUND MODE button or the SURROUND button on the Remote. On the lower left side of the display you will see the four effects shown as LIVE-S, D. CLUB, HALL and STADIUM. The ones currently selected are highlighted.

Using these effects gives you control of the way your music sounds, so you can tailor it for your room and for the quality of the source. We can give you some idea of how each one affects the music, but the only way to really tell is to try them yourself. Depending on the way each recording is made, or the quality of the radio signal, they will affect different pieces differently. Feel free to experiment!

Selecting Sound Effects

- You select a sound effect by pressing LIVE SURROUND MODE to cycle through the effects until the effect you want is highlighted in the display.
- Live Surround is a special effect that affects the music in combination with one of the other three effects. When both an effect and LIVE-S are highlighted, they are on together.
- To remove only Live Surround from the effect, just press LIVE SURROUND MODE and Live Surround is turned off. The next time you press LIVE SURROUND MODE, the present sound effect is turned off, and the next one is turned on along with Live Surround.
- To turn all the effects off, including Live Surround, press LIVE SURROUND MODE until nothing is highlighted.

Things to remember about using special effects:

- Experiment with and set your special effects *before* you start recording with CD Direct or Auto Edit, because once recording starts, the special effects cannot be changed without stopping recording, and often having to start over. If you need different sound effects for each selection, use the standard recording features described on page 15, rather than Auto Edit or CD Direct.
- Each of the special effects changes the sound in a different way by changing which parts of the sound are increased or reduced. To see how each part of the sound will be changed, watch the display just as you press LIVE SURROUND MODE when music is playing. You will see a graphical display showing the effect's pattern for just a short time before the effect starts.

LIVE-S
D. CLUB
HALL
STADIUM

- **LIVE SURROUND** — With this function the sound coming from only two speakers approaches the quality of sound from four speakers.
- **DANCE CLUB** — Increases resonance and bass.
- **HALL** — Adds depth and brilliance to the sound, as in a concert hall.
- **STADIUM** — Adds clarity and spreads the sound, like the sound in an outdoor stadium.

ACTIVE BASS EXTENSION

Active Bass Extension

This feature is designed and incorporated to reinforce the bass sound, depending on the volume level to maintain the richness and fullnes of the bass. You cannot control it manually.

Listening with Headphones

A standard pair of headphones can be connected at the PHONES jack on the front panel. When the headphones are connected, no sound can be heard from the speakers. **Be sure to turn down the volume before connecting or putting on headphones, as high volume can damage both the headphones and your hearing.**

The Display

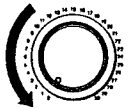
The Display

- The Display Panel tells you many useful things about what your Unit is doing. Watch it as you give instructions to the CA-E48BK by pressing buttons.

What's Next?

Now that you know how to control the sound, go on to learn how to use each sound source: Radio, CD, Tape, and turntable.

Caution:
Too LOUD!



> **CAUTION:** Always set the VOLUME control to 0 (minimum) before turning on the turntable, or starting any other of the sound sources such as the radio, tape, or CD player. Otherwise, if the VOLUME control is turned up, the sudden blast of sound energy can permanently damage your hearing and/or ruin your speakers.

Listening to the Radio

> The controls for the radio are located on the upper half of the front panel around the display panel. With these controls you can browse through all the stations or use the preset function to go immediately to a particular station.
>
> - To record from the radio, see "Recording any Sound Source to Tape," page 15.
> - To set the timer to turn the radio off at a certain time, see "Sleep Timer," page 19.

First we'll explain how to tune in stations, and then how to preset the ones you listen to often.

Radio

One Touch Radio

Just press AM(MW/LW) to turn on the Unit and start playing the most recent AM(MW/LW) station tuned in, or press FM to start the most recent FM station playing. If you press TUNER on the Remote instead, you can start playing the most recent station tuned in.

- You can switch from any other sound source to the radio by pressing either AM(MW/LW) or FM.

Three ways to tune in a station

Tuning in a Station

Press AM(MW/LW) or FM to turn on the radio. The display shows the frequency of the station tuned to.

You have 3 ways to select a station:

1. Press and release TUNING/TIMER < or > to move from station to station until you find the one you want.

   OR

2. Hold down TUNING/TIMER < or >, and the display cycles through all the stations one after the other. Release the button when you see the one you want.

   OR

3. Press once and release PRESET < or > to go to the previous or next preset station, or hold PRESET <or> to cycle through the preset stations: release the button when the preset station you want shows on the display. (You can use this method only if you have preset the stations as described in the following section.)

You can also use the Remote to tune in stations and preset channels:

- To tune preselected stations with the Remote:
  1. Press TUNER so that you can receive the most recent station tuned in.
  2. Select the station by entering the preset channel number in the 10 key pad of the Remote. The display shows the new channel number and frequency.

How to preset AM(MW/LW) and FM radio stations

Presetting Stations

Once a station is assigned to a channel number, the station can be quickly tuned either from the Remote using the 10 Key pad of the Remote or the CA-E48BK itself using PRESET < or > to call up the channel number.

- You can preset a total of 40 stations, either AM(MW/LW), FM, or a mixture of both, at random.
- Preset stations may be erased when power is cut off to the Unit, as when it is unplugged from the AC outlet or a power failure occurs. If the preset stations are lost, simply set the stations again using the following procedure.

To preset radio stations:

1. Tune in the station you want to set.
2. Press MEMORY.
   - On the display, MEMORY will blink for 8 seconds. During these 8 seconds while MEMORY is blinking you can assign a channel number to the station and enter it into the memory.
3. Select a channel number by pressing PRESET < or > until you see the channel number you want on the display.
4. Press MEMORY and the station will be assigned to the channel number showing on the display.

Receiving in Stereo or Mono

When an FM stereo broadcast is hard to receive or noisy:

- Press FM MODE/MUTE and reception will improve, although you will loose the stereo effect. In this state, you will hear some noise while tuning into a station.
- To restore stereo effect, press FM MODE/MUTE again so that AUTO appears in the display. In this state, when a program is broadcast in stereo, you will hear stereo sound; when in monaural, you will hear monaural sound. Furthermore, in this state, you won't hear noise while tuning into stations.

Listening to a Compact Disc

COMPU PLAY
Compact Disc Play

The quickest way to start a CD is with One Touch Operation:
- ❑ Press ►/II PLAY/PAUSE on the CD player or Play ► on the CD CONTROL section on the Remote.
- ❑ If a CD is already loaded, the Unit automatically turns on and starts to play it from track 1.
- ❑ If no CD is loaded, the CD tray opens, and you can put in a CD, printed side up, press ►/II PLAY/PAUSE and the tray closes and the CD starts playing.
- ❑ If you press ▲OPEN/CLOSE, the Unit automatically turns on and the CD tray comes out.

How to use the CD player: from the most basic to advanced

Basics of Using the CD Player

Here are the basic things you need to know to play a CD and locate the different selections on it. Each selection is called a track, so when we are talking about locating a track, we are also talking about how you find a certain song or performance.

To Load, Play, and Stop a CD

1. Press ▲ OPEN /CLOSE.
2. Put a CD, printed side up, into the tray.
3. If you want to listen to the CD now, press ►/II and PLAY/PAUSE adjust the volume.
   - ❑ The CD tray closes automatically.
   - ❑ The display shows the track being played and the length of time since it started.
4. To stop the CD, press ■ STOP/CLEAR. When you start again, the CD begins with track 1.
5. To pause the play, press ►/II PLAY/PAUSE while the CD is playing so when you press ►/II PLAY/PAUSE again the CD starts just where you left off.
6. To remove a CD, press ▲ OPEN/CLOSE, take the CD out, and press ▲ OPEN/CLOSE again to close the tray. Keep the tray closed except during loading and unloading to protect the mechanism from dust and damage.

PLAY/PAUSE

CD
Find track

How to Find the Track or a Particular Point You Want

- ❑ Each time you press briefly and release ⏮ or ⏭ SEARCH /EDIT TIME the track changes by one.
  - Press and release ⏭ SEARCH/EDIT TIME to go ahead one track at a time.
  - Press and release ⏮ SEARCH /EDIT TIME to go back one track at a time.
- ❑ Holding down ⏮ or ⏭ SEARCH/EDIT TIME will fast reverse or fast forward the CD so you can quickly find the particular part of a track you want to listen to.
- ❑ Holding down ⏮ or ⏭ on the CD CONTROL section of the Remote allows you to change tracks continuously.

Using the Remote to find a track

Locating a Track with the Remote Directly

Using the 10 key pad on the Remote allows you to go directly to the beginning of any track.

1. Press CD 10 KEY.
2. Enter the number of the track you want using the 10 key pad.
   - Example: for track 5, press 5. For track 15, press +10 then 5. For track 20, press +10, then 10.
3. As long as a CD is loaded and the Unit is on, as soon as you enter the number of the track you want, it will start to play.

With programming, you can play back tracks in any order

Programming the Playing Order of the Tracks

In addition to the high quality sound which makes the CD such a good way to listen to music, you can change the order in which the tracks play.

Random Play

Before starting a CD, press RANDOM on the CD player.
- ❑ The tracks will play in no special order.
- ❑ When all of the tracks have been played, the CD shuts off.
- ❑ Press REPEAT before or during random play to instruct the CA-E48BK to continue with a different random track selection after the last selection is played.
- ❑ To cancel random play, press ■ STOP/CLEAR.

Programming procedure

Programmed Play

You can arrange the tracks to play in any order you like with the Program function, located just to the right of the CD tray.

The CD track order can be programmed from the main unit. Use this procedure:

1. Press PROGRAM.
2. Press ⏮ or ⏭ SEARCH/EDIT TIME to locate the track you want to start with.
3. Press PROGRAM to store the selected track.
4. Repeat steps 2 and 3 until you have entered all the tracks you want to program.
   - ❑ Your program can include up to 32 tracks, and you can repeat tracks if you want.
5. Press ►/II PLAY/PAUSE and the Unit will begin playing the tracks in the order you programmed them.

When using the Remote

To locate the track in the above procedure (in steps 2, 3 and 4), you can also use the Remote. First, press CD 10 KEY, and then press the number of the first track you want hear, the number of the second track and so on until you have entered all the track numbers you want to play.
- ❑ Refer to the section "How to use the Remote Control" on page 20 if you have questions about how to enter number above 10.

Programming Hints

A Few Hints to Make Programming Easier
- ❑ If you want to change the entire program, press ■ STOP/CLEAR on the main Unit, and then you can start over.
- ❑ To view the order of the tracks in your program when it's playing, press ■ STOP/CLEAR on the main unit, then press ⏮ or ⏭ SEARCH/EDIT TIME to display the order of the tracks. Each time you press ⏭ SEARCH/EDIT TIME the next selection in your program is displayed. (Press ⏮ SEARCH/EDIT TIME for the previous selections.)

Repeat a selection or the whole CD

Repeating a Selection or the Entire Disc

- ❑ You can have either the program or the individual selection currently playing repeat as many times as you like by pressing REPEAT. Each time you press REPEAT, it cycles from OFF, which turns the REPEAT indication out on the display, to REPEAT which will repeat all tracks in order or according to the program you have set, and REPEAT 1 which will repeat the currently playing track. To cancel Repeat, just press REPEAT until the REPEAT indication on the display goes off.

Listening to a Tape

Listen to a tape: How to use your tape deck

The tape deck allows you to play, record and dub audio tapes.
- ❑ To record or dub, see Recording page 14.
- ❑ With Automatic Tape Type Detection, you can listen to type I, II, or IV tapes without changing any settings.
- ❑ To play a tape and learn about the many easy-to-use features of the dual tape deck built into your CA-E48BK, read on here!

Playing Back a Tape

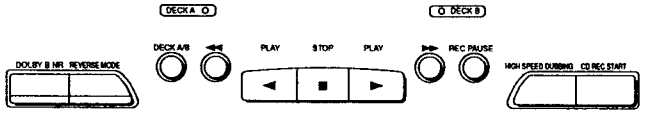
You can play a tape from either deck A or deck B, but remember: only deck B can record.

New, Easy-to-Use Tape Control Panel

Easy-to-Use Tape Control Panel

You control the tape transport functions like Play, Fast forward, Reverse, etc. from just one set of buttons. Many double cassette decks have a separate set for each cassette; but the CA-E48BK has only one set. You press DECK A/B to select which deck, A or B, the controls will control. The LED labeled DECK A (just to the left of the display panel) or the DECK B LED (just to the right of the display panel) lights up so you know which deck the control buttons are controlling.

- ❑ When a tape is in either deck A or B, the Unit automatically detects which deck to control and makes the LED for it light up. The DECK A/B button does not function.
- ❑ When tapes are in both deck A and B, the Unit automatically selects the last deck in which a tape is put and makes the LED for it light up.
- ❑ The DECK A or DECK B LED only shows which deck you can control. **It never shows which deck is actually operating.** For example, the DECK A LED will light up if you press DECK A/B or put a tape in deck A while you are recording on deck B.



On the Remote, however, notice that deck A and deck B have separate control sections. So when using the Remote to control the tape deck, you don't have to select which deck the buttons control, you just use the buttons on the left for deck A and the ones on the right for deck B.

COMPU PLAY

One Touch Play

From the Remote:

By pressing ► (Play forward) or ◄ (Play reverse) for the deck you want to start, the power will come on, and if a tape is in the deck, it will start to play. If no tape is loaded, the Unit will come on and wait for further instructions.

From the Console Panel:

When you press ► PLAY (forward) or ◄ PLAY (reverse) the Unit remembers which tape deck last had a tape inserted and its carrier door closed, and starts to play the tape in that deck. You can override this memory by selecting which deck you want by first turning on the power and making the selection with DECK A/B.

Playback Procedure

Regular Play

When power is already on, you can use this basic procedure:

With the Remote:

1. Press ▲ EJECT, which is located just below the deck it controls, for the deck you want to use.
2. When the cassette carrier opens, put the cassette in, with the exposed part of the tape down toward the base of the CA-E48BK.
   - ❑ If the cassette carrier does not open, turn the Unit off, then back on again and press ▲ EJECT.
3. Close the carrier gently.
4. Turn the volume down. (See the Caution on page 8 about possible damage from setting the volume too high.)
5. Press ► to play the front side, or ◄ to play the reverse side.
6. To stop playing, press ■ Stop. To remove the tape, press ▲ EJECT.

From the Console Panel:

Follow the above procedure except, if tapes are inserted in both decks, first use DECK A/B to select the deck with the tape you want to play.

Fast Left and Fast Right

From the Console, first select the deck with DECK A/B if tapes are in both decks. From the Remote, use the controls for the appropriate deck.

- ❑ While the tape is stopped, press ◄◄ (fast left) and the tape will wind rapidly onto the left side of the cassette without playing.
- ❑ While the tape is stopped, press ►► (fast right) and the tape will wind rapidly onto the right side of the cassette without playing.

Finding the place you want: Music Scan

Music Scan

The Scan function is very useful, quite easy to use.

When you scan forward, the tape advances rapidly to the beginning of the next selection and starts to play. If you want to keep looking for another selection, scan forward again and keep repeating the procedure until you find what you are looking for.

When you scan in reverse, the tape runs rapidly in the reverse direction from which it was playing until it comes to the beginning of the selection that was playing. You can now listen to the selection again, or go to the beginning of previous selection by scanning in reverse again.

- ❑ The Scan function works by detecting a 4 second blank at the beginning of each selection, so it won't work well if your tape has:
  - No blank at the beginning of a track.
  - Noise (often caused by much use or poor quality dubbing) which fills the blank with noise.
  - Long, very soft passages or pauses in a selection. The scan will detect these instead of the 4 second blanks. If this happens, just go ahead and scan again until you reach the selection you want.
- ❑ Music scan only works on one tape at a time.

Scan Forward.....

Here's the procedure for scanning:

Scan Forward

With the tape playing, to find the beginning of the next selection, press ►► or ◄◄ whichever one points in the *same* direction as the highlighted, slowly blinking arrow in the lower right corner of the display.

- ❑ The tape will fast forward to the next selection and begin playing it.

.....Scan Back

Scan Back

With the tape playing, to find the beginning of the selection now playing, press ►► or ◄◄ pointing the *opposite* direction from the highlighted, slowly blinking arrow in the lower right corner of the display.

- ❑ The tape will fast reverse to the beginning of the piece and start playing it again.

More Useful Things to Know:
- **Continuous Play**
- **Reverse Mode**
- **DOLBY B NR**

Useful hints and features to know about when using your tape deck

- ❑ **Continuous Play:** When a tape finishes playing, the Unit always checks to see if a tape is in the other deck. If one is there, it automatically starts playing it while rewinding the first tape. Continuous Play works regardless of which deck starts first.
- ❑ Use **Reverse Mode** to make the tape automatically reverse at the end of a side and start playing the other side. Press REVERSE MODE to change from Reverse Mode on, to Reverse Mode off, or from off, to on. The ⇄ is highlighted if Reverse Mode is selected. When Reverse Mode is turned off, only the central part ⇒ of the ⇄ in the display is lit.
  - If there is a tape in the other deck, it will start playing when both sides of the first tape have been played. As long as the Reverse Mode symbol ⇄ in the display is lit, the tapes will continue to play in the above sequence.
  - If Reverse Mode is off, the tape will play to the end of the current side, switch to the other deck and start playing a tape there while rewinding the first tape.
- ❑ Press DOLBY B NR to switch **Dolby Noise Reduction** on (the indicator is highlighted in the display), or if it is on, turn it off by pressing DOLBY B NR, and the indicator will dim. If a tape has been recorded with DOLBY B NR, playing it back with DOLBY B NR on will reduce tape noise and improve the clarity of the sound.

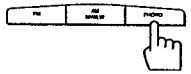
Dolby noise reduction manufactured under license from Dolby Laboratories Licensing Corporation.
"DOLBY" and the double-D symbol, are trademarks of Dolby Laboratories Licensing Corporation.

(No. 20442) 1

Listening to a turntable through your CA-E48BK

Advantages to Connecting a turntable

By playing the sound from a turntable through the CA-E48BK, you can get good quality sound, and gain control over how the music or program sounds. Once the turntable is playing through the CA-E48BK, you can apply sound effects, make recordings, or listen with the headphones. Here are the steps to take:



1. Make a connection between the turntable and the CA-E48BK as shown on page 4.
   - ❑ Since there are many different types of turntables, we can't tell you here just how to make the connections on your equipment. However, the diagram on page 4 will cover most cases, and you can also look in the turntable's instruction manual.
2. Set the Unit's volume to its lowest setting: use FADE MUTING on the Remote, or turn the VOLUME control all the way counterclockwise.
3. Press PHONO on either the Unit or the Remote.
   - ❑ If the Unit is off, it will turn on when you press PHONO.
4. Turn on the turntable and start playing a record.
5. Adjust the volume on the CA-E48BK.
6. To cancel the PHONO setting, change the source by starting any one of the CA-E48BK's built in sound sources, such as the radio or CD player.

Recording

What can you record?
•Tapes
•Radio
•CDs
•Turntable

Recording onto cassette tape from any of the sound sources is easy and the CA-E48BK does most of the work. Just have a tape in deck B, have the source ready, make one or two settings, and you're ready to record.

For each source the procedure is a little different and now we'll explain just what to do for each one. If you forget, just come back to the section which has the specific procedures you need. But first, here are a few things to make your recordings better.

Things to Know before You Start Recording

Copyright

- ❑ **It may be unlawful to record or playback copyrighted material without the consent of the copyright owner.**

Reduce Hiss—DOLBY NR

- ❑ Press DOLBY B NR—the indicator lights up in the lower right corner of the display—to reduce tape hiss, **except** when dubbing tape to tape. In this case the DOLBY B NR has no effect, regardless of the setting of the button.

Recording Level

- ❑ The recording level, which is the volume at which the new tape is being made, is automatically set correctly, so it is not affected by the VOLUME control on the CA-E48BK. Thus, you can adjust the sound you are actually listening to without changing the recording. If you don't want to listen to the sound, you can turn the VOLUME control all the way down, or press FADE MUTING on the Remote.

Erasure Protection

- ❑ Cassettes have a special feature so you won't accidentally record over a tape you want to save. Two small tabs on the back, one for side A and one for side B, can be removed to prevent erasure or re-recording. To record on a cassette with the tabs removed, you must cover the holes with tape first. However, when a Type II tape is used, only cover part of the hole as shown below, since the other part of the hole is used to detect the tape type.

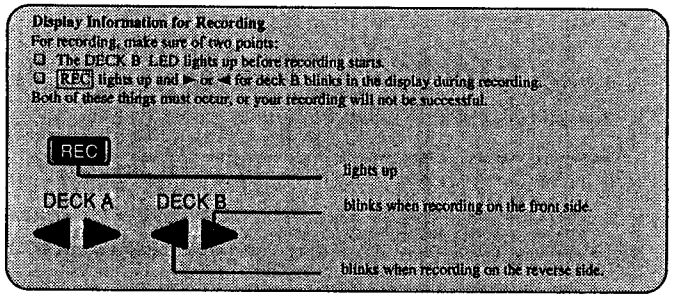
Select Sound Effects

- ❑ When recording, you can select the sound effects with the LIVE SURROUND MODE button on the unit or the SURROUND button on the Remote to condition the music as it is recorded. But when recording using Auto Edit or CD Direct, once recording has started, these settings cannot be changed. When recording from tape Deck A to Deck B, the sound effects cannot be used, because the signal doesn't go through the amplifier first. This method gives you the highest quality dubbed tapes.

- ❑ Type I and type II tapes can be used for recording. While type IV tapes can be played, type IV tapes cannot be used for recording on the CA-E48BK.

☞ If recordings you make have excessive noise or static, the Unit may be too close to a TV which was on during the recording. Either turn off the TV or increase the distance between the TV and the CA-E48BK.

Important!


Display Information for Recording
For recording, make sure of two points:
❑ The DECK B LED lights up before recording starts.
❑ REC lights up and ► or ◄ for deck B blinks in the display during recording.
Both of these things must occur, or your recording will not be successful.
REC
lights up
DECK A
DECK B
blinks when recording on the front side
blinks when recording on the reverse side.

Standard Recording: Any Source to Tape

Standard Recording

This is the basic method for recording any source. The CA-E48BK also has special ways for recording CD to tape, and tape to tape, which save you time and effort, as well as give you some special effects.
However, when you need to add a selection to a tape you have made, or are combining selections from several sources on one tape, use the method we describe here; just substitute the source you want, such as a tape in deck A, or CD, or radio in this procedure. You can also record from a connected turntable with this procedure.

Source to Tape: Step by Step

Recording any Sound Source to Tape

Follow these steps to record from any sound source onto a tape in deck B.

1. Press POWER.
   - ❑ Press REVERSE MODE so that ⇄ shows in the display, if you want to record on both sides of the tape.
2. Put the tape you are making into deck B.
3. Press REC PAUSE.
   - ❑ REC lights up in the display.
4. Prepare the source, for example, tuning in a radio station, loading a CD, starting a connected turntable, etc.
   - ❑ If the source is already playing, Just press REC PAUSE, then press either ► PLAY to record on side A, or ◄ PLAY to record on side B.
5. When you want to start recording, press either ► PLAY to record on the front side, or ◄ PLAY to the reverse side of the tape.
   - ❑ Hint: any time a source other than deck B is playing, you can record by putting a tape in deck B, pressing REC PAUSE, then ► PLAY or ◄ PLAY to start recording that source.

CD to Tape, Introduction

CD to Tape Recording

There are three ways to record from CD to tape:

- ❑ The standard method described above.
- ❑ CD Direct Record—Everything on the CD goes onto the tape in the order it is on the CD or according to an order you have set in a program.
- ❑ Auto Edit—Your CA-E48BK figures out which selections to put on which side of the tape, so a selection isn't cut off before it's finished when the tape runs out.

CD Direct Record, Step by Step

CD Direct Record

1. Put the tape in deck B.
2. Load a CD into the tray and press ≜ OPEN/CLOSE.
   - ❑ If you want to record on both sides of the tape, press REVERSE MODE so that ⇄ shows in the display.
3. Press CD REC START on the front panel.
   - ❑ The Unit will automatically rewind the tape to the beginning of side A, create a 10 second blank, turn on the CD and start recording.
     - At the end of the tape, the CA-E48BK automatically goes back to the beginning of the last selection and re-records it, this time gently fading out at the end. If you selected the Reverse Mode, side B starts with the last selection on side A.
     - When the tape is finished, the Unit shuts off the CD and the tape deck.
     - Press ■ STOP on the front panel to interrupt anytime during the recording process.

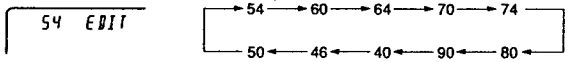
Auto Edit, CD to tape, Introduction

Recording a CD onto a Tape Using Auto Edit

Using Auto Edit, you can arrange the CD tracks to fit the tape, so a selection isn't cut off when the tape runs out first. Auto Edit is one of the best ways to copy all of a CD onto a tape.
The selection of which tracks go on which side is based on the lengths of the tracks and the length of the tape. The CA-E48BK can figure out most of what it needs to know, but you will have to tell it the tape size you are using if your tape is a different size than the one picked by the program. Follow this procedure to record a CD using Auto Edit.

Auto Edit, CD to tape, Step by Step

1. Put the tape in deck B.
   - ❑ Press REVERSE MODE to indicate ⇄ in the display if you want to record on both sides of the cassette.
2. Load the CD into the CD player.
   - ❑ If the CD is already loaded, be sure the power is on.
3. Set the sound effects you want now, since the sound environment cannot be changed once recording starts.
4. Press ■ STOP/CLEAR on the CD player.
   - ❑ This cancels the previous edit or program setting.
5. Press AUTO EDIT on the CD player. The system tells you the minimum standard tape length to use.
   - ❑ You can select a different length of tape, depending on the actual size of the tape you are using, from ten possibilities programmed into the CA-E48BK: 40, 46, 50, 54, 60, 64, 70, 74, 80, 90. Cycle through these choices using ⏮ or ⏭ SEARCH/EDIT TIME until you find the length closest to your tape's actual length.



6. Press SIDE A/B on the CD player, and the display shows which tracks will go on side A and which on side B. Each time you press SIDE A/B the display switches between A and B.
7. Now press CD REC START on the tape deck.
   - ❑ The tape automatically rewinds to the beginning of side A, a 10 second blank is created, and the CD begins to play and be recorded.
   - ❑ To stop recording any time during the process, press either ■ STOP on deck B or ■ STOP/CLEAR on the CD player. But remember: after you stop, if you restart, the tape will rewind and start recording the CD from the beginning.

Tape to Tape Dubbing, Introduction

Tape to Tape Recording (Dubbing)

Recording from one tape to another is called dubbing.
You can dub at regular speed for highest quality, or at high speed with a slight loss in sound quality. With high speed it takes only about one-half the time to copy a tape.

- ❑ Refer back to "Things to Know before You Start Recording" on page 14.
- ❑ Refer back to "Listening to a Tape" on page 12 if you have other questions about operating the tape deck.

Regular Speed Dubbing, Step by Step

How to Copy a Tape With Regular Speed Dubbing

1. Put the tape you want to copy *from* into deck A for playback.
2. Put the tape you want to copy *onto* into deck B for recording.
   - ❑ Anything already on the tape in deck B is erased as the new sound from deck A is copied onto it.
3. Press REC PAUSE. Now deck B is ready to record.
4. Press ► PLAY (forward) or ◄ PLAY (reverse) for deck B.
   - ❑ Deck B starts recording.
   - ❑ Make sure that no other source is played while dubbing, or that source will take over and be recorded instead of the tape in deck A.
5. Press DECK A/B so that the DECK A LED lights up.
6. Press ► PLAY or ◄ PLAY for deck A.
   - ❑ Deck A starts playing, and is now being recorded on deck B.
7. To stop dubbing, stop both deck A and B.

Important Dubbing Information

Dubbing Information

- ❑ The type of tape (Normal or CrO_2) you record *from* must be the same as the type you record onto.
- ❑ When dubbing from one tape to another, the DOLBY B NR has no effect, regardless of the setting of the button.
- ❑ During regular speed dubbing you can only listen to the source tape. If you don't want to hear it, turn down the VOLUME control or press FADE MUTING on the Remote. Only the sound you hear will be affected; the recording level is controlled automatically.
- ❑ You cannot dub using the sound effects such as DANCE CLUB, HALL, etc.

High Speed Dubbing, Step by Step

High Speed Dubbing

Although the quality of the dubbed tape is a little less, high speed dubbing is a very convenient way to record from one tape to another.

1. Put the tape you want to copy *from* into deck A, and the tape to be copied *onto* in deck B.
2. Press HIGH SPEED DUBBING on the tape deck. REC lights up in the display.
   - ❑ Both decks start, deck A playing and deck B recording.
     - If you want to dub both sides of the tape, make sure to press REVERSE MODE to indicate ⇄ in the display.
     - The sound you hear is strange because it is much faster than usual, and you may not want to listen to it. Turn it down with the VOLUME control, or press FADE MUTING on the Remote.
     - When using high speed dubbing, you can also listen to another source such as the radio or the CD player, just as if you weren't dubbing.

Recording Selections from Several Different Tapes

When you want to take selections from several different tapes and combine them on one tape during high speed dubbing, follow these steps whenever changing tapes in deck A:

1. Press DECK A/B to make the DECK A LED light up.
2. Press ■ STOP.
   - ❑ This causes deck A to stop, so you can change tapes, while deck B makes a 4 second blank and pauses.
3. Change the tape in deck A.
4. Press HIGH SPEED DUBBING to start deck A playing and deck B recording again. REC lights up in the display.

(No. 20442) 1-1

How to use the Timers and Set the Clock

Two Timers:
•Record
•Sleep

The timers let you control recording and playing functions automatically. With the CA-E48BK they are particularly easy to set and use. Two types of timers are available:

- ❑ **Rec Timer**—unattended recording of radio broadcasts. You can set the starting time and recording duration.
- ❑ **Sleep Timer**—Fall asleep and have your CA-E48BK turn off automatically after a certain length of time.

NOTE: follow the procedure, step by step.

Whenever you are setting the clock or the timers, you can cancel the setting mode by pressing any other button than the one specified in the procedure. So be careful to finish the entire procedure before starting any other function, or you will have to start over.

IMPORTANT!
Set your clock!

Clock Setting

The timers depend on the clock: If the clock is right, the timers will work like you expect, but if the time is incorrect on the clock then the timers will also be incorrect.

- ❑ You can set the clock with the unit either on or off.

Special Notice: The clock must be set, or the timers cannot be set!
So, let's set the clock first.

1. Press CLOCK ADJUST. (During setting, CLOCK flashes in the display.)
2. Now you are ready to set the *hour* by pressing TUNING/TIMER< or >: Press > to advance the hour, and < to decrease the hour. Each time you press TUNING/TIMER< or >, the hour changes by one. Hold the button down, and the clock will change one hour at a time as long as it is held down.
3. Press MEMORY and the hour showing in the display will be set, and the minutes digits will start to flash.
4. Now you are ready to set the *minutes* by pressing the same button, marked TUNING/TIMER < or >: Press > to advance the minutes, and < to decrease the minutes. Each time you press TUNING/TIMER < or > the minutes change by one. Hold the button down, and the clock will change rapidly in ten minute intervals (10, 20, 30, etc.) as long as it is held down.
5. Press MEMORY again and the clock is set and starts from the hour and minute showing on the display.

☞ If there is a power failure, the clock looses its setting, the display shows "0:00" and it must be reset.

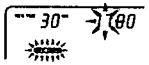
Recording when you're not there

Setting the Recording Timer

With the recording timer you can make a tape of a radio broadcast automatically whether or not you are there to start the CA-E48BK. For the timer to work correctly, you need to make sure of two things in addition to setting the time for the radio and tape recorder to come on:

- ❑ The tape you want to record onto must be in deck B.
- ❑ The radio station whose program you want to tape must be the last one played before the timer comes on.
- ❑ You can set the Recording Timer with the Unit either on or off.

Follow this procedure to set the Recording Timer:



1. Press REC TIMER— REC TIMER flashes in the display. As long as it is flashing, you can continue with the setting process. If you wait too long, and it stops before you are done, just press REC TIMER twice and start over.
2. Set the time you want the radio to come on and the tape in deck B to start recording.
   - ❑ Setting the time is just like setting the clock above: set the hour with TUNING/TIMER < or > , press MEMORY, set the minutes with TUNING/TIMER < or >, press MEMORY. The time to start recording is now set, and you are ready to set the length of time for the recording.
3. To set the length of time for the recording:
   - ❑ Each time you press the TUNING/TIMER < or > button, the duration increases by one minute. If you hold the button down, it will advance in ten minute increments up to 120 minutes, which is the maximum time you can set.

4. Press MEMORY again, or wait eight seconds, and the Unit will memorize the setting.
   - ❑ The REC TIMER indication in the display will stop flashing and be highlighted. The Unit will now turn on at the set time and record the last station set when it was last turned off.
   - ❑ Notice that the REC TIMER indicator is lighted up on the display whenever the Recording Timer is set.
   - ❑ At the end of the set length of time the radio and deck B will shut off.
   - ❑ If you set no time, but leave the display showing —:—, the CA-E48BK will not shut off, but keep playing until you shut it off.
5. Whenever REC TIMER is lit on the display, you can press REC TIMER to turn it off. Although the timer will no longer come on and make a recording, the times you have set are stored in memory, and unless the Unit is disconnected from the power source, you can recall your settings by pressing REC TIMER again. To completely erase the settings, program another setting over the previous setting.

☞ It is very easy, and can be very disappointing, to forget to put in a tape, or to accidentally leave a tape you don't want recorded over in deck B. Although this happens to almost everyone sometimes, we hope it won't happen to you!
☞ When the recording timer switches the CA-E48BK on, the volume coming out of the speakers is controlled by the VOLUME control, so set it to the minimum if you will be out or sleeping during the recording.

Sleep Timer: turns the Unit off automatically after a set time

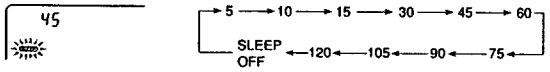
Sleep Timer

Use the sleep timer to turn the Unit off after a certain number of minutes when it is playing. Using this timer, you can fall asleep to music and know your CA-E48BK will turn off by itself rather than play all night.

- ❑ You can only set the Sleep Timer when the CA-E48BK is on and a source is playing.
- ❑ To cancel the Sleep Timer setting simply press SLEEP TIMER until the SLEEP indication disappears from the display. Turning off the Unit also cancels the Sleep Timer setting.

To set the Sleep Timer follow this procedure:

1. With the CA-E48BK on and a source playing, press SLEEP TIMER. The SLEEP indicator in the display will start blinking.
2. Set the length of time you want the source to play before shutting off with this procedure:
   - ❑ Each time you press SLEEP TIMER while the SLEEP indication is blinking, it changes the number of minutes shown in the display in this sequence:



   - ❑ The actual time when the CA-E48BK will shut off shows in the right hand corner of the display where the clock time is usually displayed.
   - ❑ When the number of minutes you want shows in the display, just wait 8 seconds until the SLEEP indicator stops blinking, but remains lighted.

The Unit will now turn off after the number of minutes you have set.

☞ When the Recording Timer setting and Sleep Timer setting overlap, the Recording Timer always has priority. When the Recording Timer starts, the Sleep Timer setting will be cancelled.

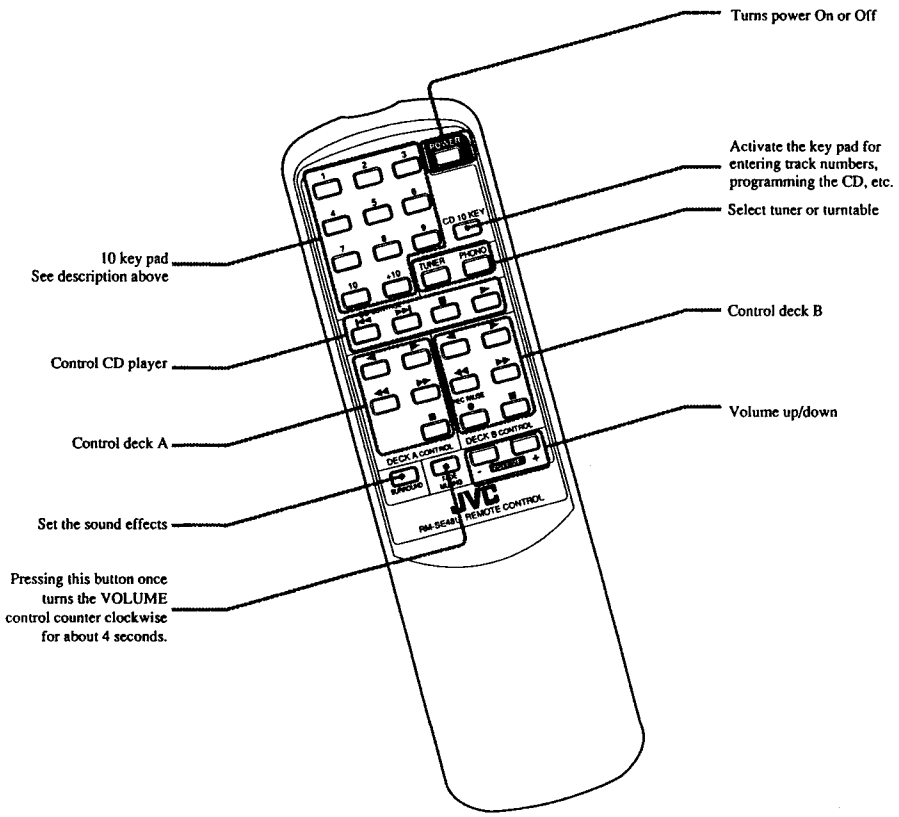
How to Use the Remote Control

The Remote Control makes it easy to control many of the functions of the CA-E48BK from a distance of up to 20 feet (6m) away. You do need to point the remote sensor at the CA-E48BK console.
Most of the buttons on the Remote Control do just what the ones on the front of the CA-E48BK do, and they are explained in the manual. A few functions are available only by using the Remote Control, and those are described below.

Using the 10 Key Pad

The 10 key pad is used to specify a CD track or the number you have assigned to a preset radio station. To enter a number using the key pad follow these steps:

- When you use the 10 key pad for CD player, first press CD 10 KEY; when for the tuner, first press TUNER before pressing any 10 key.
- For numbers between 1 and 10, just press the button with the number you want.
- For numbers from 11 to 20, first press the +10 key, then the one's digit of the number you want—to get 15, first press +10, then 5. For 20 press +10 and 10 .
- For numbers from 21 to 30, press the +10 key twice; then press the one's digit—to get 25, press +10 +10 and 5 . For 30, press +10 +10 and 10
- For numbers from 31 and 40, follow the same procedure, only press the +10 key three times, then the one's digit—to get 32, press +10 +10 +10 and 2.



Troubleshooting

- If you are having a problem with your CA-E48BK, check this list for a possible solution before calling for service.
- If you cannot solve the problem from the hints given here, or the Unit has been physically damaged, call a qualified person, such as your dealer, for service.

Symptom	Possible Cause	ACTION
No sound is heard.	Connections are incorrect, or loose.	Check all connections and make corrections. (See pages 3 and 4.)
Impossible to record.	Cassette record protect tabs are removed.	Cover holes on back edge of cassette with tape.
Hard to listen to broadcasts because of noise.	The antenna is disconnected.	Re-connect the antenna securely.
	The loop antenna is too close to the system.	Change the position and direction of the loop antenna.
	The feeder antenna is not properly extended and positioned.	Extend feeder antenna to the best reception position.
The CD sound is discontinuous.	The CD is scratched or dirty.	Clean or replace the CD.
Unable to operate the Remote.	The path between the Remote and the sensor on the Unit is blocked.	Remove the obstruction.
	The batteries are discharged.	Replace the batteries.
The CD tray cannot be operated.	The main AC power cord is not plugged in.	Plug in the AC power plug.
The CD does not play.	The CD is upside down.	Put the CD in with the label side up.
Operations are disabled.	The built in microprocessor may malfunction due to external electrical interference.	Unplug the system then plug it back in.
The cassette carrier cannot be opened.	The system was turned off because the timer was operated while the tape was running.	Turn On the system.

Specifications

Amplifier
Output Power (IEC 268-3/DIN)
25 watts per channel, min. RMS, both channels driven, into 6 ohms at 1 kHz with no more than 0.9% total harmonic distortion.

Input Sensitivity/Impedance (1 kHz)
PHONO 3 mV/47 kohms

Speaker terminals
Speakers 6 ohms

Tape deck
Frequency response
CrO2: 30 ~ 16,000 Hz
Normal: 30 ~ 15,000 Hz
Wow and Flutter
(WRMS) 0.09%
(DIN) 0.2%

Tuner
FM Tuner
Tuning Range 87.5 ~ 108.0 MHz
Usable Sensitivity 0.95 µV/75 ohms (10.8 dBf)
Signal-to-Noise Ratio
(IHF-A weighted) MONO (at 85 dBf) 80 dB
STEREO (at 85 dBf) 73 dB
(DIN) MONO 72 dB
STEREO 64 dB

AM (MW/LW) Tuner
MW-Tuning Range 522 ~ 1,629 kHz
LW-Tuning Range 144 ~ 290 kHz (only for Italy)
144 ~ 353 kHz

Compact Disc Player
Dynamic Range (1 kHz) 90 dB
Signal-to-Noise Ratio 95 dB
Wow and Flutter Unmeasurable

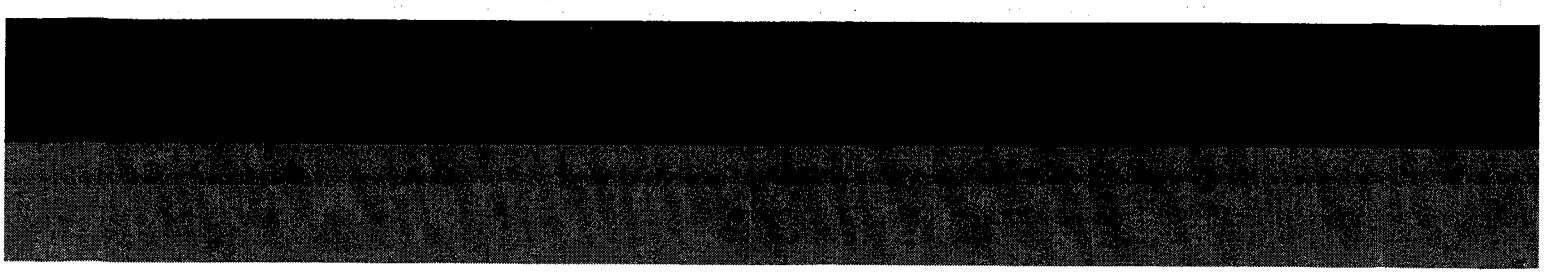
General
Power Requirements AC230V ∿, 50 Hz
Power Consumption 110 Watts
Dimensions (Approx.) 360 x 410.5 x 338.6 mm (W/H/D)
(14-3/16 x 16-3/16 x 13-3/4 in.)
Weight (Approx.) 8 kg (17.64 lbs)

Supplied Accessories
FM wire antenna (1) (only for Germany)
FM feeder antenna (1) (except for Germany)
AM loop (MW/LW) antenna (1)
Remote control (RM-SE48U) (1)
Batteries R6 (SUM-3)/AA(15F) (2)
Antenna adaptor (1) (except for Germany)

Design and specifications subject to change without notice.

(No. 20442) 1-

CA-E48BK



JVC

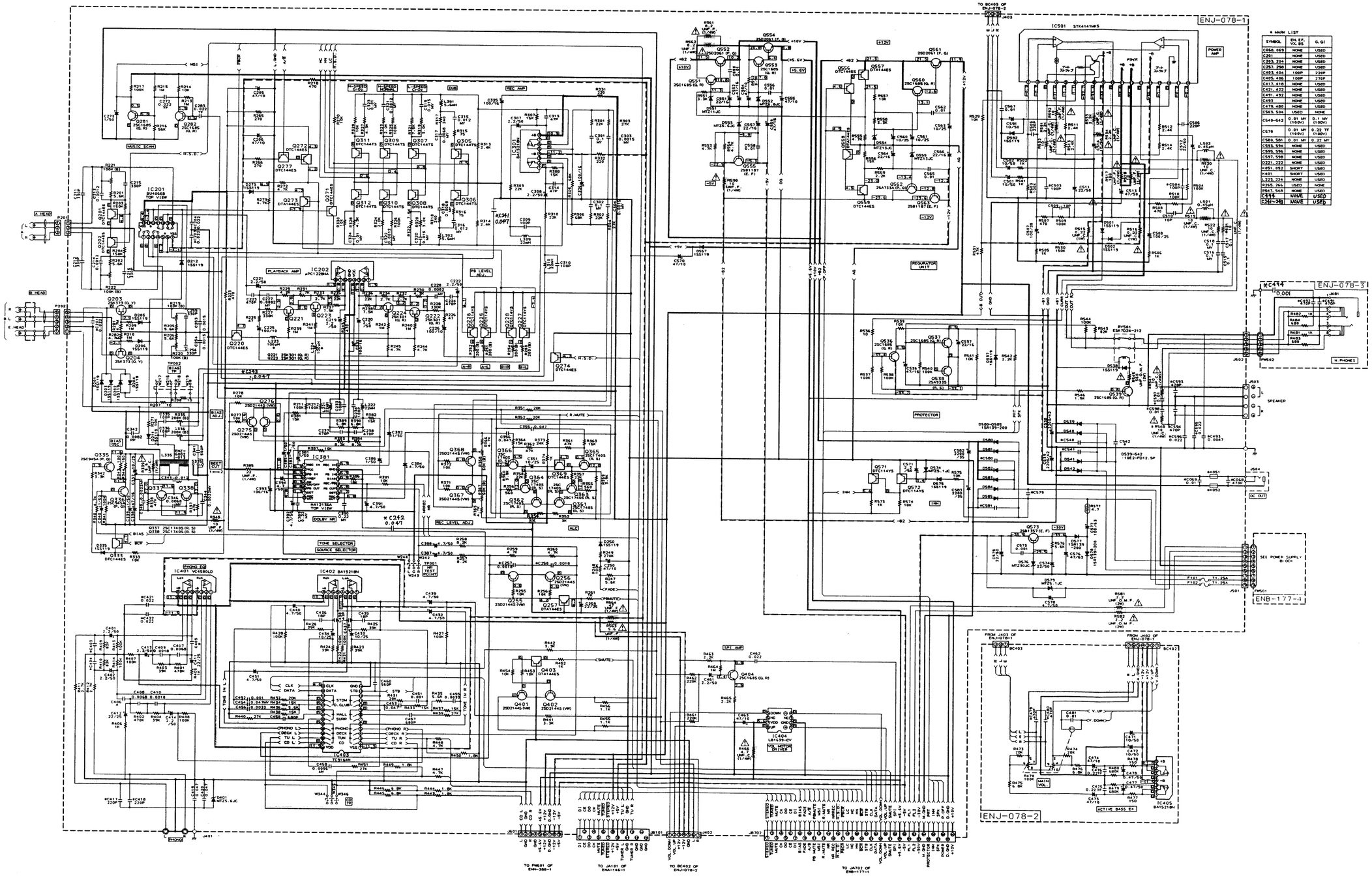
VICTOR COMPANY OF JAPAN, LIMITED
AUDIO DIVISION, YAMATO PLANT, 1644, SHIMOTSURUMA, YAMATO-SHI, KANAGAWA-KEN, 242, JAPAN

(No. 20442)

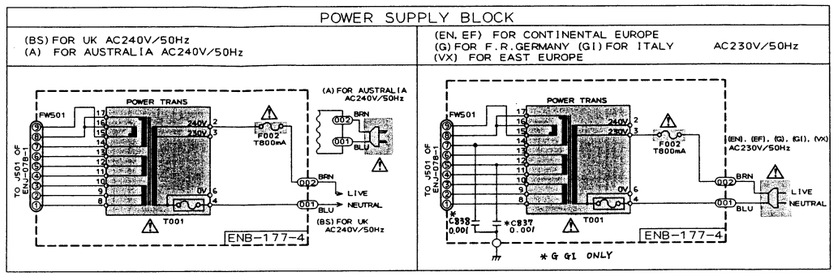
Printed in Japan
9308[O]

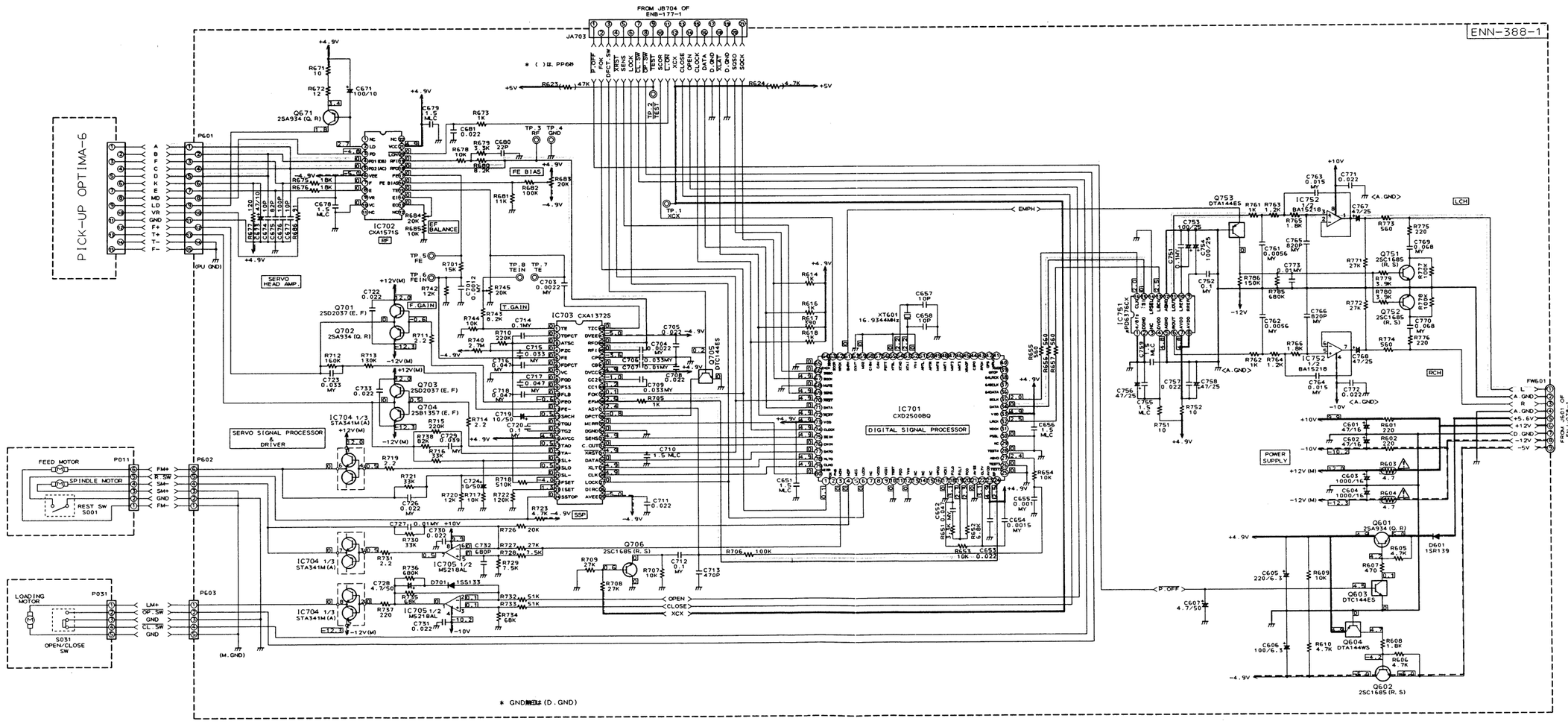
Schematic Diagrams

(1) Amp Section


ENJ-078-1
ENJ-078-2
ENJ-078-3
ENB-177-4
IC501 STK4141MK5
IC201 BU4066B TOP VIEW
IC202 μPC1228A
IC381 BA3121BA TOP VIEW
IC401 VC4580LD
IC402 BA15218N
IC403 TC9154N
IC404 LB1935-CV VOL MOTOR DRIVER
IC405 BA15218N
REGULATOR UNIT
POWER AMP
PROTECTOR
SPEAKER
H. PHONES
ACTIVE BASS EX
SEE POWER SUPPLY BLOCK
TO BC403 OF ENJ-078-2
TO JA101 OF ENA-144-1
TO JA102 OF ENB-177-1
TO PW501 OF ENH-358-1
TO BC402 OF ENJ-078-2
FROM J403 OF ENJ-078-1
FROM J402 OF ENJ-078-1
* MARK LIST
SYMBOL | EN EP, VX, BS | G, GI
C268, 269 | NONE | USED
C281 | NONE | USED
C283, 324 | NONE | USED
C297, 298 | NONE | USED
C483, 484 | 100P | 220P
C485, 486 | 100P | 270P
C417, 418 | NONE | USED
C421, 422 | NONE | USED
C491, 492 | NONE | USED
C493 | NONE | USED
C479, 480 | NONE | USED
C503, 504 | USED | NONE
C540-542 | 0.01 MY (100V) | 0.1 MY (100V)
C579 | 0.01 MY (100V) | 0.22 TF (100V)
C580, 581 | 0.01 MY | 0.22 MY
C593, 594 | NONE | USED
C595, 596 | NONE | USED
C597, 598 | NONE | USED
D221, 222 | NONE | USED
H851, 852 | SHORT | USED
H401 | SHORT | USED
L323, 324 | NONE | USED
R265, 266 | USED | NONE
R547, 548 | NONE | USED
C484 | NONE | USED
C241-246 | NONE | USED

(2) CD Section

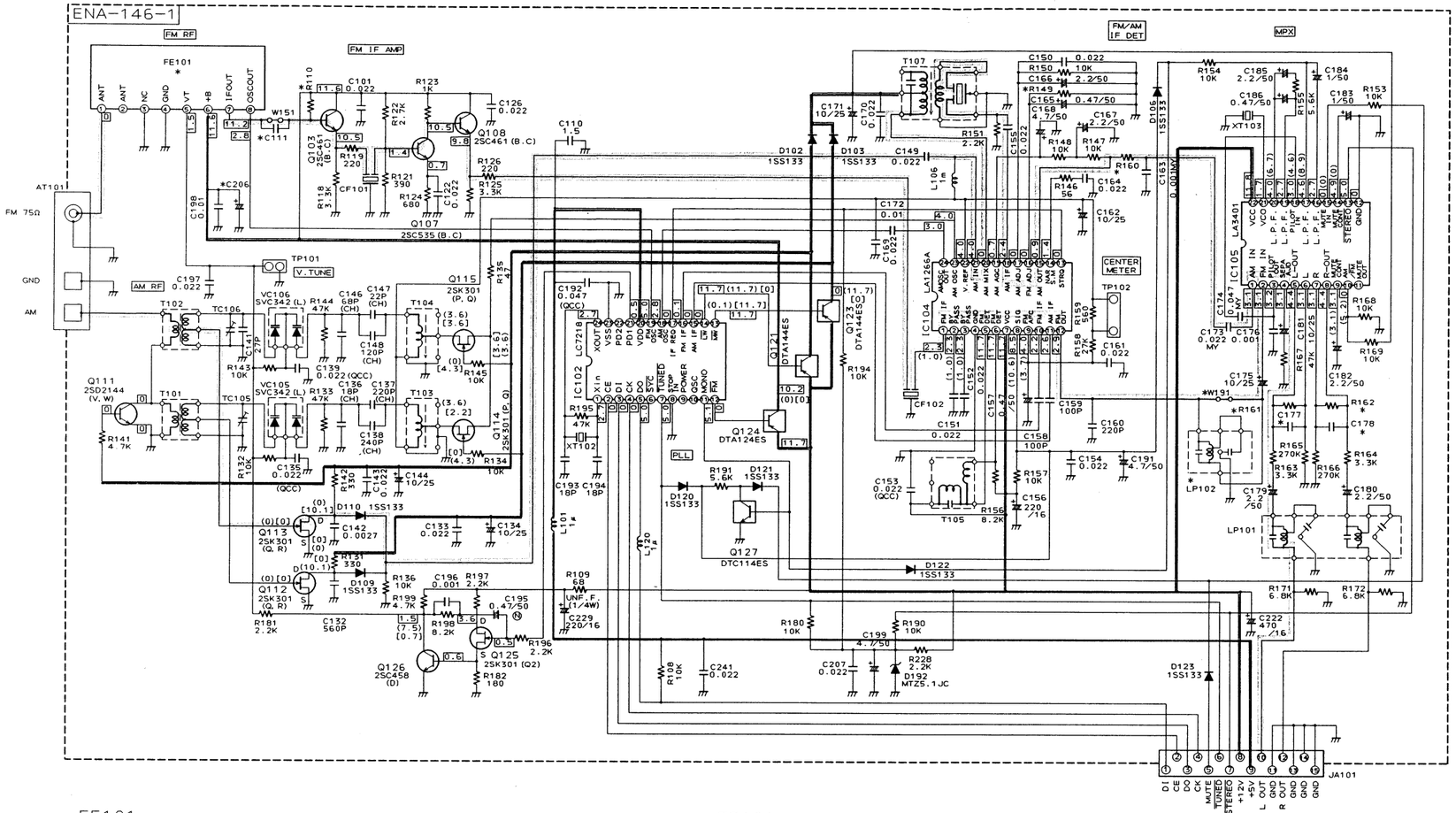

POWER SUPPLY BLOCK
(BS) FOR UK AC240V/50Hz
(A) FOR AUSTRALIA AC240V/50Hz
(EN, EF) FOR CONTINENTAL EUROPE
(G) FOR F.R.GERMANY (GI) FOR ITALY
(VX) FOR EAST EUROPE
AC230V/50Hz
POWER TRANS
FW501
F002 T800mA
T001
ENB-177-4
LIVE
NEUTRAL
BRN
BLU
* G GI ONLY


ENN-388-1
FROM JB704 OF ENB-177-1
JA703
PICK-UP OPTIMA-6
P601
IC702 CXA1571S
IC703 CXA1372S
IC701 CXD2500BQ
DIGITAL SIGNAL PROCESSOR
SERVO HEAD AMP.
SERVO SIGNAL PROCESSOR & DRIVER
IC704 1/3 STA341M(A)
IC705 1/2 M5218AL
IC751 PD5376CX
IC752 1/2 BA15218
XTAL 16.9344MHz
FEED MOTOR P011
SPINDLE MOTOR
REST SW S001
LOADING MOTOR P031
OPEN/CLOSE SW S051
P602
P603
FW601
POWER SUPPLY
SSP
FE BIAS
EF BALANCE
T.GAIN
F.GAIN
EMPH
LCH
RCH
P.OFF
OPEN
CLOSE
XCK
TO J501 OF ENB-178-1
FROM J601 OF ENN-378-1
(M. GND)
(PU GND)
* GND (D. GND)

(3) Tuner Section

FOR EN, EF, BS, G, GI, VX

ENA-146-1

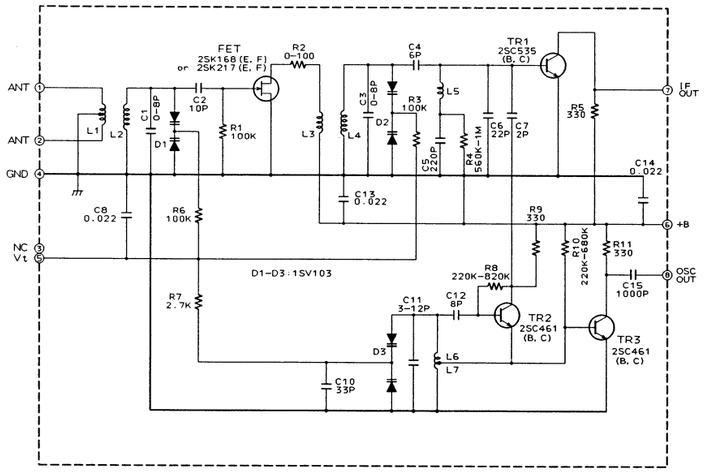


* MARK

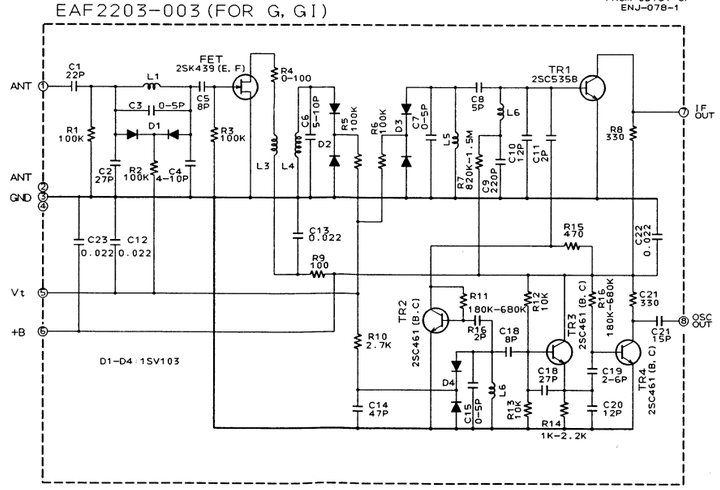
	EN, EF	G, GI	BS	VX
R160	10K	10K	1K	10K
R161, 162	100K	100K	68K	100K
C177, 178	560P	560P	820P	560P
FE101	EAF2203-001	EAF2203-003	EAF2205-001	EAF2302-001
LP102	NONE	USED	NONE	NONE
W191	USED	NONE	USED	USED
R149	22K	27K	22K	15K
R110	NONE	NONE	NONE	47K
C111	NONE	NONE	NONE	0.01
W151	USED	USED	USED	*NONE
C107	NONE	47/50	NONE	NONE

□ FM AUTO NO SIGNAL
( ) MW NO SIGNAL
[ ] LW NO SIGNAL

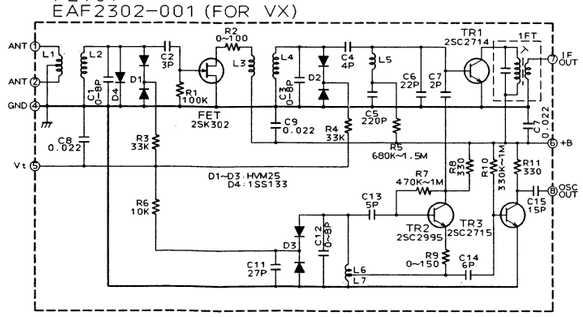
FE101
EAF2203-001 (FOR EN, EF, BS)



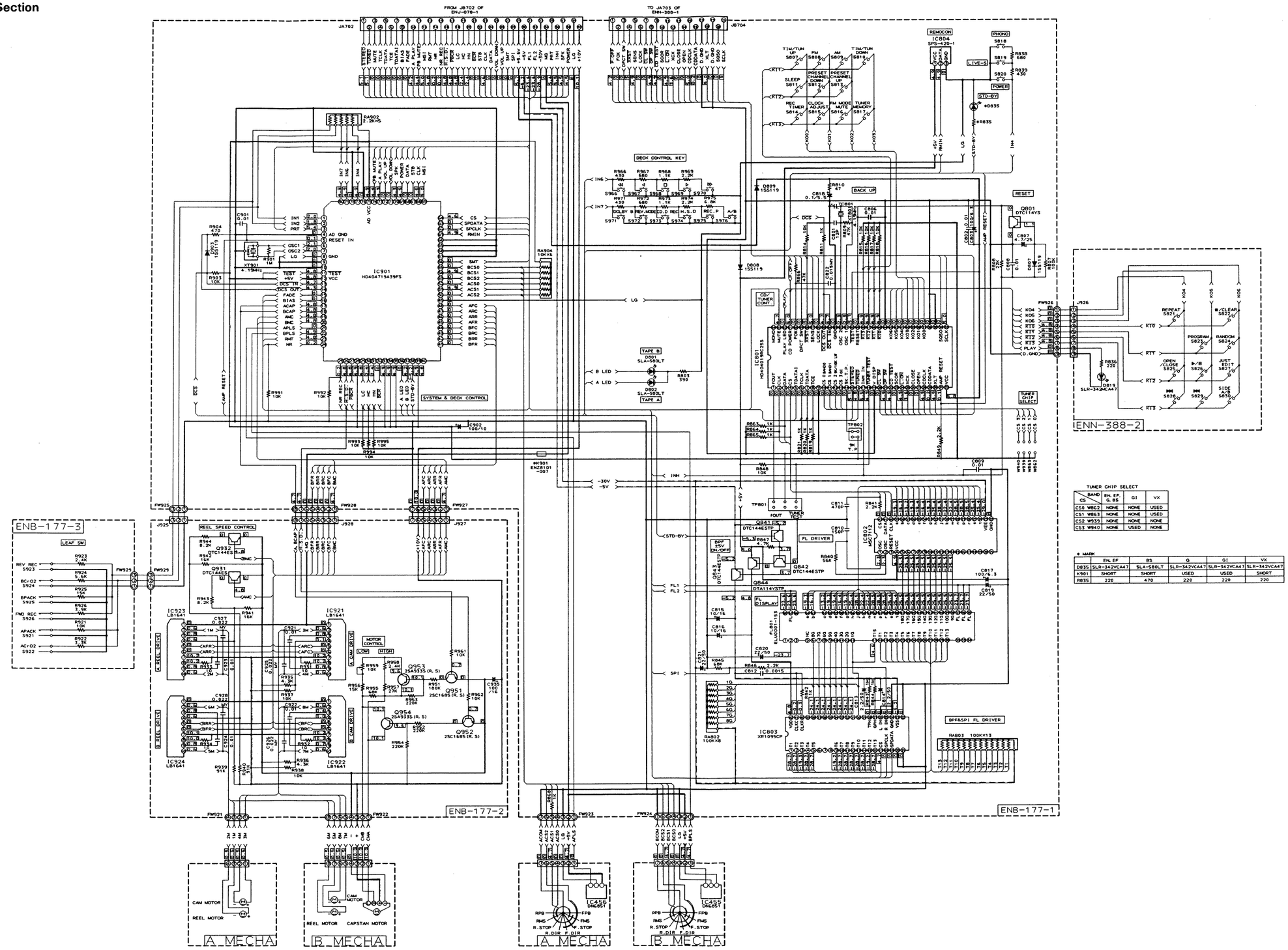
FE101
EAF2203-003 (FOR G, GI)



FE101
EAF2302-001 (FOR VX)



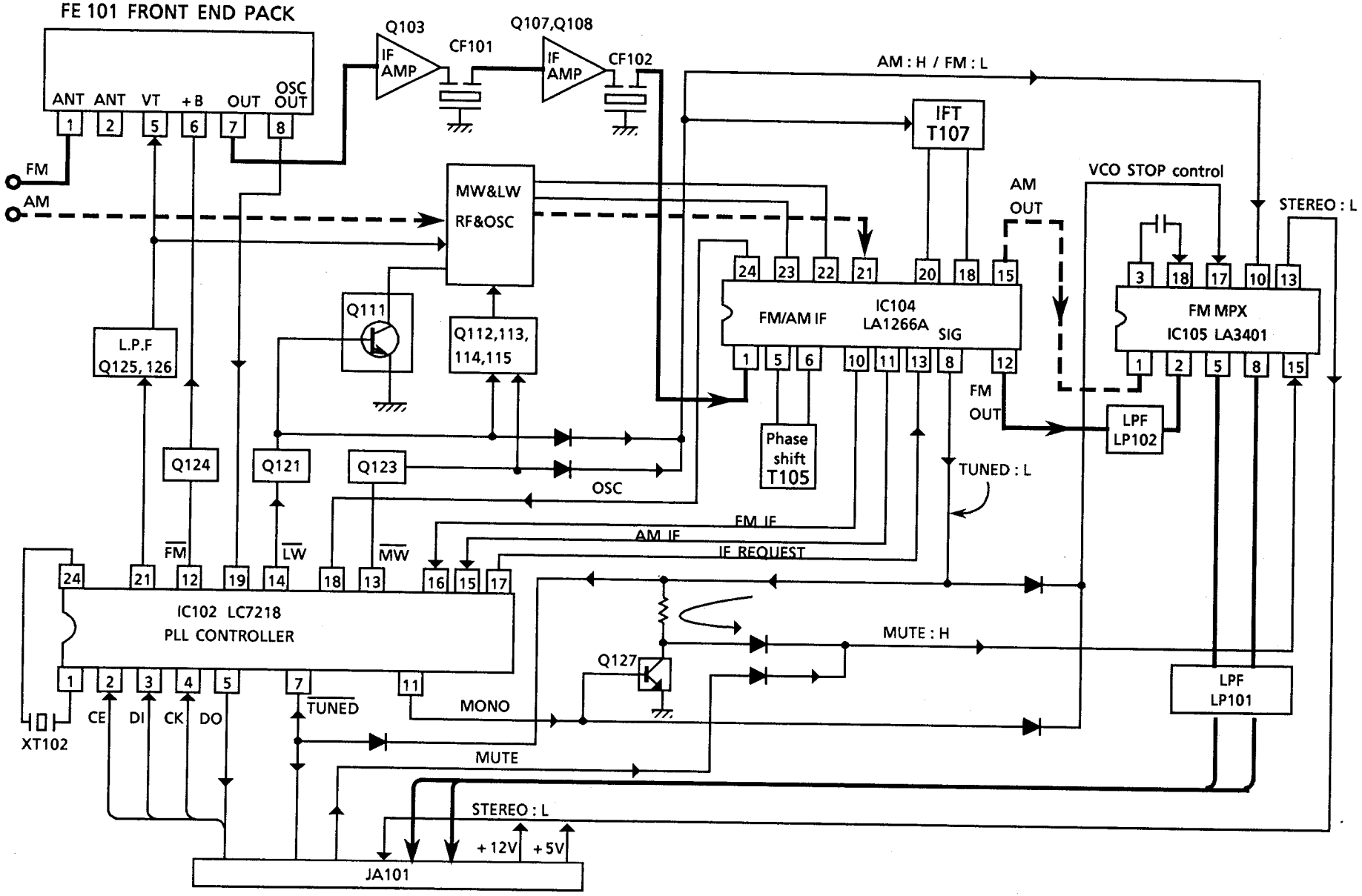
(4) Control Section

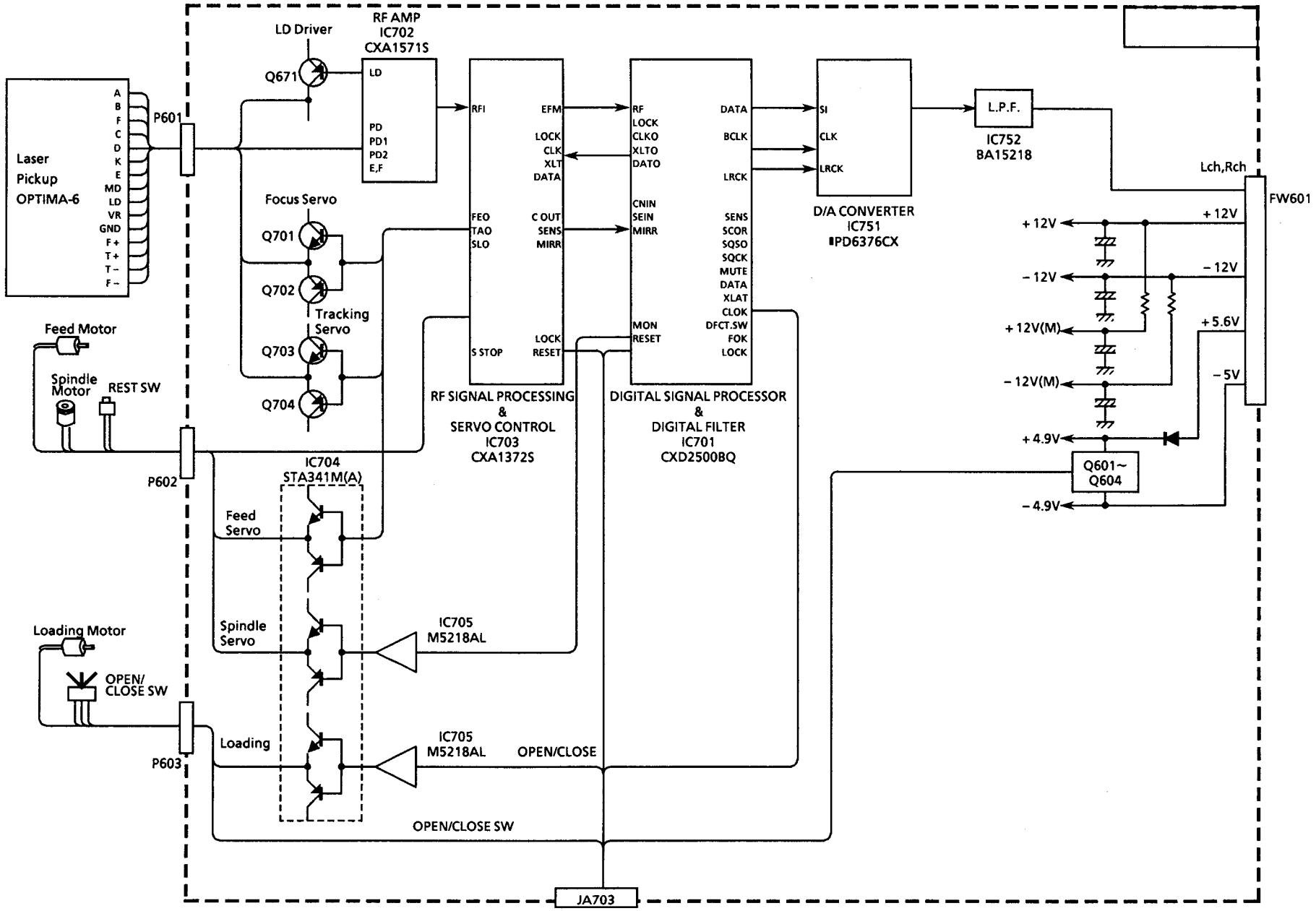


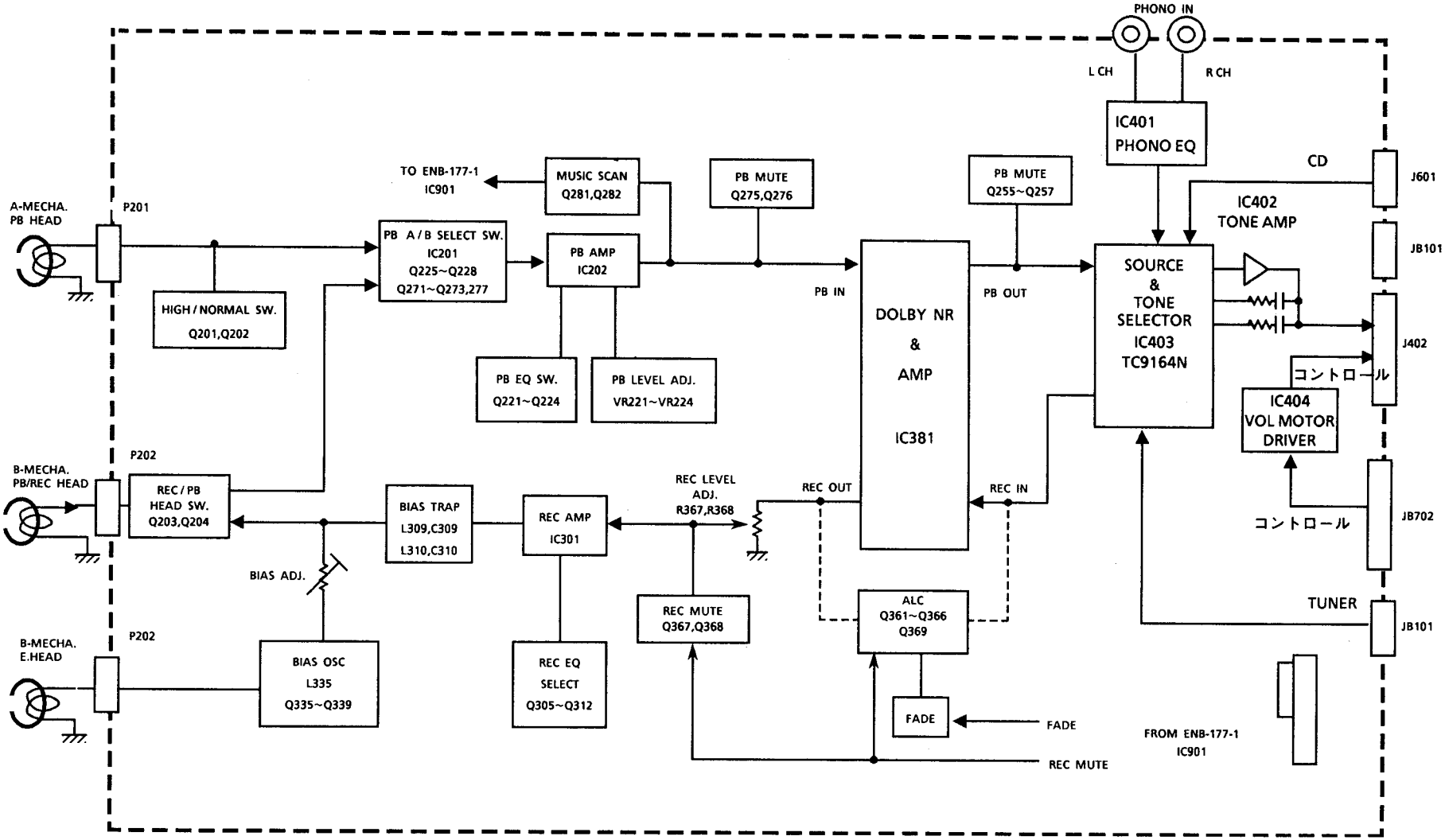
TUNER CHIP SELECT			
CS / BAND	EN. EF. G. BS	GI	VX
CS0 W962	NONE	NONE	USED
CS1 W963	NONE	NONE	USED
CS2 W935	NONE	NONE	NONE
CS3 W940	NONE	USED	NONE

* MARK

	EN, EF	BS	G	GI	VX
DB35	SLR-342VCA47	SLA-580LT	SLR-342VCA47	SLR-342VCA47	SLR-342VCA47
K901	SHORT	SHORT	USED	USED	SHORT
RB35	220	470	220	220	220


FE 101 FRONT END PACK
ANT ANT VT +B OUT OSC OUT
1 2 5 6 7 8
FM
AM
Q103
IF AMP
CF101
Q107,Q108
IF AMP
CF102
AM : H / FM : L
IFT T107
MW&LW RF&OSC
AM OUT
VCO STOP control
STEREO : L
24 23 22 21 20 18 15
FM/AM IF IC104 LA1266A SIG
1 5 6 10 11 13 8 12
3 18 17 10 13
FM MPX IC105 LA3401
1 2 5 8 15
Q111
Q112,113, 114,115
L.P.F Q125, 126
Q124
Q121
Q123
OSC
Phase shift T105
FM OUT
LPF LP102
TUNED : L
FM IF
AM IF
IF REQUEST
FM
LW
MW
24 21 12 19 14 18 13 16 15 17
IC102 LC7218 PLL CONTROLLER
MUTE : H
Q127
1 2 3 4 5 7 11
XT102
CE DI CK DO
TUNED
MONO
MUTE
LPF LP101
STEREO : L
+12V +5V
JA101

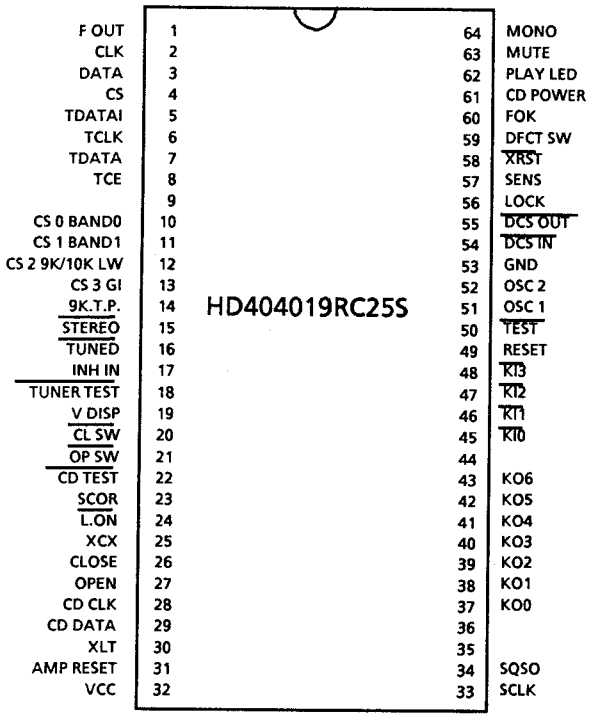

Laser Pickup OPTIMA-6
A
B
F
C
D
K
E
MD
LD
VR
GND
F+
T+
T−
F−
P601
LD Driver
Q671
RF AMP IC702 CXA1571S
LD
PD
PD1
PD2
E,F
RFI
EFM
LOCK
CLK
XLT
DATA
FEO
TAO
SLO
C OUT
SENS
MIRR
S STOP
LOCK
RESET
RF SIGNAL PROCESSING & SERVO CONTROL IC703 CXA1372S
RF
LOCK
CLKO
XLTO
DATO
CNIN
SEIN
MIRR
MON
RESET
DATA
BCLK
LRCK
SENS
SCOR
SQSO
SQCK
MUTE
DATA
XLAT
CLOK
DFCT.SW
FOK
LOCK
DIGITAL SIGNAL PROCESSOR & DIGITAL FILTER IC701 CXD2500BQ
SI
CLK
LRCK
D/A CONVERTER IC751 μPD6376CX
L.P.F.
IC752 BA15218
Lch,Rch
FW601
+12V
−12V
+12V(M)
−12V(M)
+4.9V
+5.6V
−5V
−4.9V
Q601~ Q604
Focus Servo
Q701
Q702
Tracking Servo
Q703
Q704
Feed Motor
Spindle Motor
REST SW
P602
IC704 STA341M(A)
Feed Servo
Spindle Servo
IC705 M5218AL
Loading Motor
OPEN/ CLOSE SW
P603
Loading
IC705 M5218AL
OPEN/CLOSE
OPEN/CLOSE SW
JA703


PHONO IN
L CH
R CH
IC401
PHONO EQ
CD
J601
IC402
TONE AMP
JB101
TO ENB-177-1
IC901
MUSIC SCAN
Q281,Q282
PB MUTE
Q275,Q276
PB MUTE
Q255~Q257
A-MECHA.
PB HEAD
P201
PB A/B SELECT SW.
IC201
Q225~Q228
Q271~Q273,277
PB AMP
IC202
PB IN
DOLBY NR
&
AMP
IC381
PB OUT
SOURCE
&
TONE
SELECTOR
IC403
TC9164N
HIGH/NORMAL SW.
Q201,Q202
PB EQ SW.
Q221~Q224
PB LEVEL ADJ.
VR221~VR224
J402
コントロール
IC404
VOL MOTOR
DRIVER
B-MECHA.
PB/REC HEAD
P202
REC/PB
HEAD SW.
Q203,Q204
BIAS TRAP
L309,C309
L310,C310
REC AMP
IC301
REC LEVEL
ADJ.
R367,R368
REC OUT
REC IN
JB702
コントロール
BIAS ADJ.
REC MUTE
Q367,Q368
ALC
Q361~Q366
Q369
TUNER
JB101
B-MECHA.
E.HEAD
P202
BIAS OSC
L335
Q335~Q339
REC EQ
SELECT
Q305~Q312
FADE
FADE
FROM ENB-177-1
IC901
REC MUTE

Description of Major LSIs

■ HD404019RC25S(IC801) : CD/TUNER controller

1. Terminal Layout



2. Key Matrix

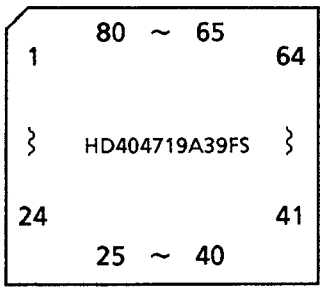
	KEY I 0 (PIN 45)	KEY I 1 (PIN 46)	KEY I 2 (PIN 47)	KEY I 3 (PIN 48)
KEY O0 (PIN 37)	—	TIM/TUN UP	SLEEP	REC TIMER
KEY O1 (PIN 38)	—	FM	PRESET <	CLOCK ADJ
KEY O2 (PIN 39)	—	AM	PRESET >	FM MODE MUTE
KEY O3 (PIN 40)	—	TIM/TUN DOWN	—	MEMORY
KEY O4 (PIN 41)	REPEAT	—	OPEN/CLOSE	▶▶|
KEY O5 (PIN 42)	—	PROGRAM	▶II	|◀◀
KEY O6 (PIN 43)	■/CLEAR	RANDOM	JUST EDIT	SIDE A/B

3. Terminal Functions

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	F OUT	O	Frequency output (TP801)	28	CD CLK	O	Clock for data transmission
2	CLK	O	Clock to transmit data to IC802 (FL driver)	29	CD DATA	O	Serial data for signal processor of cd
3	DATA	O	Data output to IC802 (FL driver)	30	XLT	O	Latch signal for data transmission
4	CS	O	Chip select signal to IC802(FL driver)	31	AMP RESET	O	Reset signal to IC901
5	TDATAI	I	Data from IC102	32	VCC	—	Power supply
6	TCLK	O	Clock to transmit data to IC102	33	SCLK	O	Clock output for SQSO transmission
7	TDATA	O	Data output to IC102	34	SQSO	I	Input of Q-data of subcode
8	TCE	O	Chip select signal to IC102	35,36	—	—	Connected to GND
9	—	—	Connected to GND	37~43	KO0~KO6	O	Key matrix (out)
10	CS 0 BAND0	—	Tuner chip select	44	—	—	Connected to GND
11	CS 1 BAND1	—	Tuner chip select	45~48	KI0~KI3	I	Key matrix (in)
12	CS 2 9K/10K LW	—	Tuner chip select	49	RESET	I	Reset signal input
13	CS 3 GI	—	Tuner chip select	50	TEST	—	Pulled up
14	9K.T.P.	—	Test mode terminal(TP 802)	51	OSC 1	I/O	Oscillation terminal
15	STEREO	I	Input for 'STEREO' indication	52	OSC 2	I/O	Oscillation terminal
16	TUNED	I	Input for 'TUNED' indication	53	GND	—	GND
17	INH IN	I	Inhibition signal	54	DCS IN	I	Compulink signal input
18	TUNER TEST	—	TEST mode terminal (TP801)	55	DCS OUT	O	Compulink signal output
19	VDISP	—	Connected to GND	56	LOCK	I	Input terminal for LOCK signal
20	CL SW	I	'L' with the tray closed	57	SENS	I	Input terminal for SENS signal
21	OP SW	I	'L' with the tray opened	58	XRST	O	Reset signal output
22	CD TEST	—	TEST mode terminal (T.P.2)	59	DFCT SW	O	'H' with focus searching
23	SCOR	I	Subcode synchronizing signal is input	60	FOK	I	Input terminal for focus ok signal
24	L.ON	O	Laser control signal	61	CD POWER	O	Power control signal to CD section
25	XCX	O	'H' with tracking loop off.	62	PLAY LED	O	Output terminal for indication of cd
26	CLOSE	O	'H' with the tray closing	63	MUTE	O	Muting signal to TUNER section
27	OPEN	O	'H' with the tray opening	64	MONO	—	Not used.

■ HD404719A39FS (IC901) : Deck System controller

1. Terminal Layout



2. Key input

IN1	IN2	IN4	IN6	IN7
A CrO_2	REV REC	POWER	◀◀	DOLBY B
B CrO_2	FWD REC	LIVE-S	◀	REV. MODE
A PACK	B PACK	PHONO	■	CD D REC
—	—	—	▶	H.S.D.
—	—	—	▶▶	REC P
—	—	—	—	A/B

3. Terminal Functions

Pin No.	Symbol	I/O	Function	Pin No.	Symbol	I/O	Function
1	IN1	I	Detecting buttons and switches	41	BFR	O	Reel motor control signal (forward)/deck B
2	IN2	I	Detecting buttons and switches	42	BRR	O	Reel motor control signal (reverse)/deck B
3	PRT	I	Input from protector circuit	43	BRC	O	Cam motor control signal (counterclockwise) /deck B
4	AD GND	—	Ground for A/D converter	44	BFC	O	Cam motor control signal (clockwise)/deck B
5	AMP RESET	I	Reset signal from IC801	45	AFR	O	Reel motor control signal (forward)/deck A
6	OSC1	—	Oscillasion terminal	46	ARR	O	Reel motor control signal (reverse)/deck A
7	OSC2	—	Oscillasion terminal	47	ARC	O	Cam motor control signal (counterclockwise) /deck A
8	L GND	—	GND	48	AFC	O	Cam motor control signal (clockwise)
9	—	—	Connected to GND	49	—	—	Connected to GND
10	—	—	Not used	50	ASC2	I	Input of mechanism information (deck A)
11	$\overline{TEST}$	—	Connected to +5V	51	ASC1	I	Input of mechanism information (deck A)
12	+5V	—	+5V	52	ACS0	I	Input of mechanism information (deck A)
13	$\overline{DCS\ IN}$	I	Compulink signal input	53	BCS2	I	Input of mechanism information (deck B)
14	$\overline{DCS\ OUT}$	O	Compulink signal output	54	BCS1	I	Input of mechanism information (deck B)
15	FADE	O	Fade recording control	55	BCS0	I	Input of mechanism information (deck B)
16	BIAS	O	Bias circuit control (on / off)	56	SMT	O	Muting control
17	ACAP	O	Drive signal for the capstan motor(A)	57	—	—	Connected to GND
18	BCAP	O	Drive signal for the capstan motor (B)	58	—	—	Connected to GND
19	AMC	O	Speed control signal for deck A	59	—	—	Connected to GND
20	BMC	O	Speed control signal for deck B	60	—	—	Connected to GND
21	APLS	I	Input of reel pulse (Deck A)	61	RMIN	I	Input from remote signal detector
22	BPLS	I	Input of reel pulse (Deck B)	62	SP CLK	O	Clock output to IC803
23	RMT	O	Recording mute control	63	SPDATA	O	Data output to IC803
24	NR	O	Noise reduction control	64	CS	O	Chip select signal to IC803
25	NR REC	O	Mode conrol of NR (REC/PLAY)	65	MSI	I	Blank detection terminal for music scanning
26	$\overline{H.S.D.}$	O	Control signal for high-speed dubbing	66	CLK	O	Clock output to IC403 (Tone selector)
27	$\overline{PBCR}$	O	Playback equalizer control	67	STB	O	Strobe output to IC403 (Tone selector)
28	—	—	Connected to +5V	68	DATA	O	Data output to IC403 (Tone selector)
29	LC	O	Rec. EQ control (Normal speed : CrO_2)	69	POWER	O	Power control (Power on/off)
30	HC	O	Rec. EQ control (High speed : CrO_2)	70	SPK	O	Speaker relay control
31	HN	O	Rec. EQ control (High speed : Normal)	71	VOL DOWN	O	Master volume control
32	$\overline{BCR}$	O	'L' when using high position tape	72	VOL UP	O	Master volume control
33	—	—	Connected to +5V	73	A PLAY	O	'H' with deck A playing
34	—	—	Connected to +5V	74	PB MUTE	O	Muting control for cassette decks
35	—	—	Connected to +5V	75	AD VCC	—	+5V
36	A LED	O	Indication signal	76	IN3	—	Connected to GND
37	B LED	O	Indication signal	77	IN4	I	Detecting buttons and switches
38	STB-BY	O	Indication signal	78	IN5	—	Connected to GND
39	—	—	Connected to +5V	79	IN6	I	Detecting buttons and switches
40	—	—	Non Connect	80	IN7	I	Detecting buttons and switches

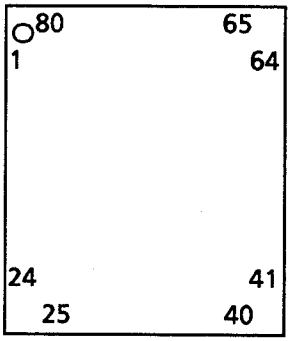
■ CXD2500BQ(IC701) : DIGITAL SIGNAL PROCESSOR

1. Outline

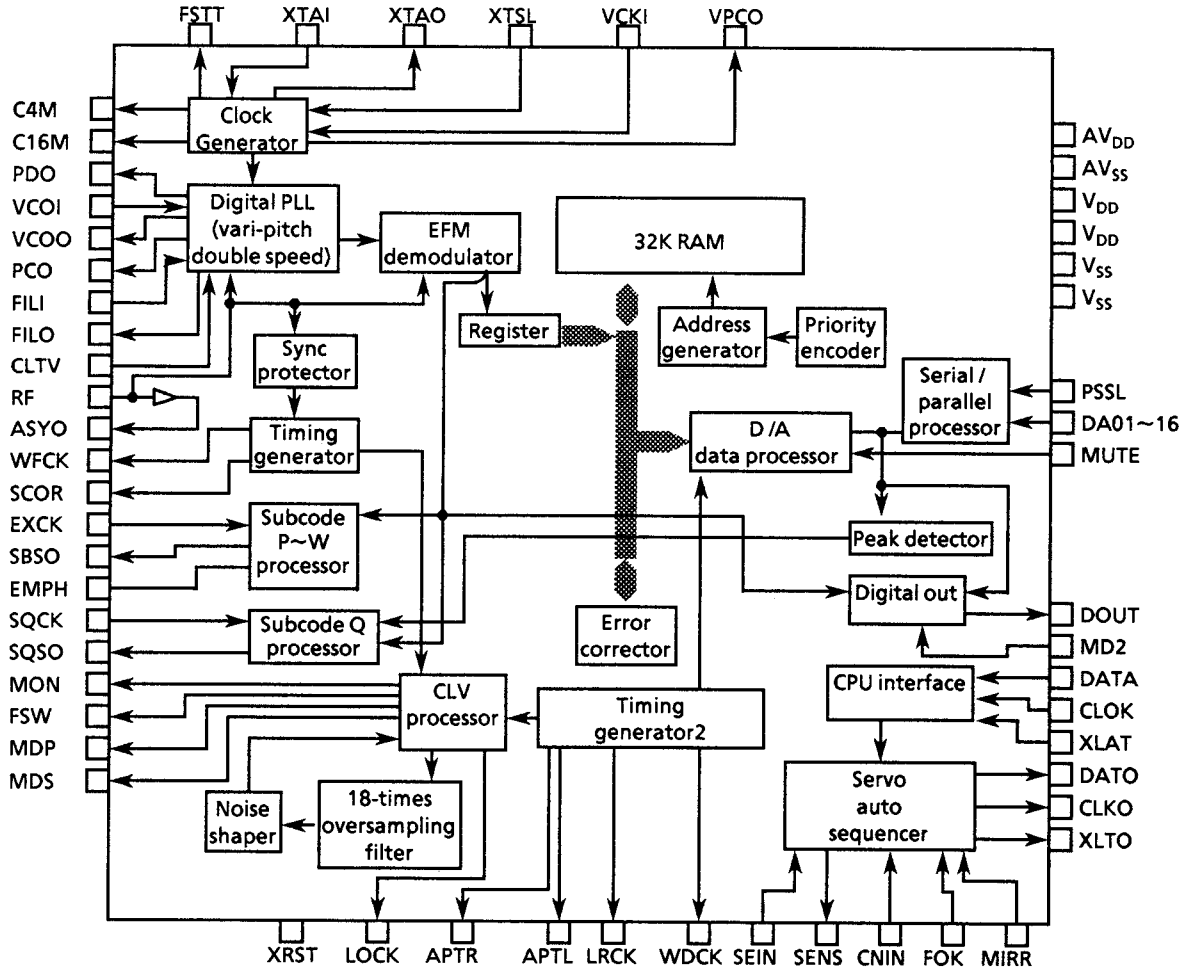
The CXD2500BQ is a digital signal processsing LSI designed for use in compact disc players. It has the following functions:

- All digital signals for regeneration are processed using one chip.
- The built-in RAM enables high-integration mounting.
- Generation by the use of a digital PLL of bit clock pulses for strobing the EFM signal.
- EFM data demodulation
- Subcode demodulation and subcode Q data error detection
- Digital spindle servo system (incorporating an oversampling filter)

2.Terminal Layout



3.Internal Block Diagram



Notes:

- The data at the 64-bit slot is output in 2's complements on an LSB-first basis. The data at the 48-bit slot is output in 2's complements on an MSB-first basis.
- GTOP monitors the state of Frame Sync protection. ("H" : Sync protection window released)
- XUFG is a negative Frame Sync pulse obtained from the EFM signal before Frame Sync protection is effected.
- XPLCK is an inversion of the EFM PLL clock. The PLL is designed so that the falling edge of XPLCK coincides with a change point of the EFM signal.
- The GFS signal turns "H" upon coincidence between Frame Sync and the timing of interpolation protection.
- RFCK is a signal generated at 136-μs periods using a crystal oscillator.
- C2PO is a signal to indicate a data error.
- XRAOF is a signal issued when a jitter margin of ± 28F is exceeded by the 32K RAM.

4. Terminal Description

Pin No.	Symbol	I/O	Description
1	FOK	I	Focus OK input pin. Used for SENS output and servo auto sequencer.
2	FSW	O	Non connection
3	MON	O	Output for spindle motor ON / OFF control.
4	MDP	O	Output for spindle servo control.
5	MDS	O	Output for spindle servo control (Non connection).
6	LOCK	O	This terminal is "H" when the GFS signal sampled at 460Hz is "H" .It turns "L" when the GFS signal turns out "L" 8 or more times in succession.
7~9	—	--	Non connection
10	TEST	I	Test pin (Normally at 0V)
11	PDO	O	Output of charge pump for analog EFM PLL (Non connection).
12	Vss	--	GND
13~16	—	--	Non connection
17	VCKI	I	Clock input from external VCO for vari-pitch control.fc = 16.9344MHz.
18	FILO	O	Output of filter for masterPLL (Slave = Digital PLL)
19	FILI	I	Input to filter for master PLL.
20	PCO	O	Output of charge pump for master PLL.
21	AVss		Analog GND
22	CLTV	I	VCO control voltage input for master PLL.
23	AV_{DD}	--	Analog power supply
24	RF	I	EFM signal input
25	TEST2	I	TEST pin (Connected to GND)
26	TEST3	I	TEST pin (Connected to GND)
27	ASYO	O	EFM full-swing output
28	TEST4	I	TEST pin (Connected to GND)
29	NC	--	Non connection
30	PSSL	I	Input used to switch the audio data output mode."L" for serial output,"H" for parallel output.
31	WDCK	O	D / A interface for 48-bit slot. Word clock f = 2Fs.
32	LRCK	O	D / A interface for 48-bit slot. LR clock f = Fs.
33	V_{DD}	--	Power supply
34	DA16	O	Output DA16(MSB) when PSSL = 1 or serial data from 48-bit slot(2's completements,MSB first) when PSSL = 0.
35	DDA15	O	Output DA15 when PSSL = 1 or bit clock from 48-bit slot when PSSL = 0.
36~51	—	--	Non connection
52	VSS	--	GND
53	XTAI	I	Input to 16.9344MHz Xtal oscillation circuit or 33.8688MHz input.
54	XTAO	O	Output of 16.9344 MHz Xtal oscillation circuit.
55	XTSL	I	Xtal selection input pin. "L" for 16,344MHz Xtal, "H" for 33.8688 MHz Xtal.
56~58	—	--	Non connection
59	MD2	I	Digital-Out ON/OFF control. "H" for ON, "L" for OFF.
60	DOUT	O	Digital-Out output pin.
61	EMPH	O	H : emphasis on L : emphasis off
62	—	--	Non connection
63	SCOR	O	Turns "H" when subcode Sync S0 or S1 is detected.
64	SBSO	O	Serial output of Sub P to W.
65	EXCK	I	Clock input for reading SBSO.
66	SQSO	O	Outputs 80-bit Sub Q and 16-bit PCM peak-level data.
67	SQCK	I	Clock input for reading SQSO.
68	MUTE	I	"H" for muting, "L" for release.
69	SENS	O	SENS output to CPU.
70	XRST	I	System reset. "L" for resetting.
71	DATA	I	Inputs serial data from CPU.
72	XLAT	I	Latches serial data input from CPU at falling edge.
73	V_{DD}	--	Power supply(+ 5V)
74	CLOK	I	Inputs serial data transfer clock from CPU.
75	SEIN	I	Inputs SENSE from SSP.
76	CNIN	I	Inputs track jump count signal.
77	DATO	O	Outputs serial data to SSP.
78	XLTO	O	Latches serial data output to SSP at falling edge.
79	CLKO	O	Outputs serial data transfer clock to SSP.
80	MIRR	I	Inputs mirror signal to be used by auto sequencer when jumping 128 or more tracks.

■ CXA1372S (IC703) : RF SIGNAL PROCESSING SERVO AMPLIFIER

1.Outline

The CXA1372S is a bipolar IC developed for RF signal processing (focus OK, mirror, defect detection, EFM comparator) and servo control.

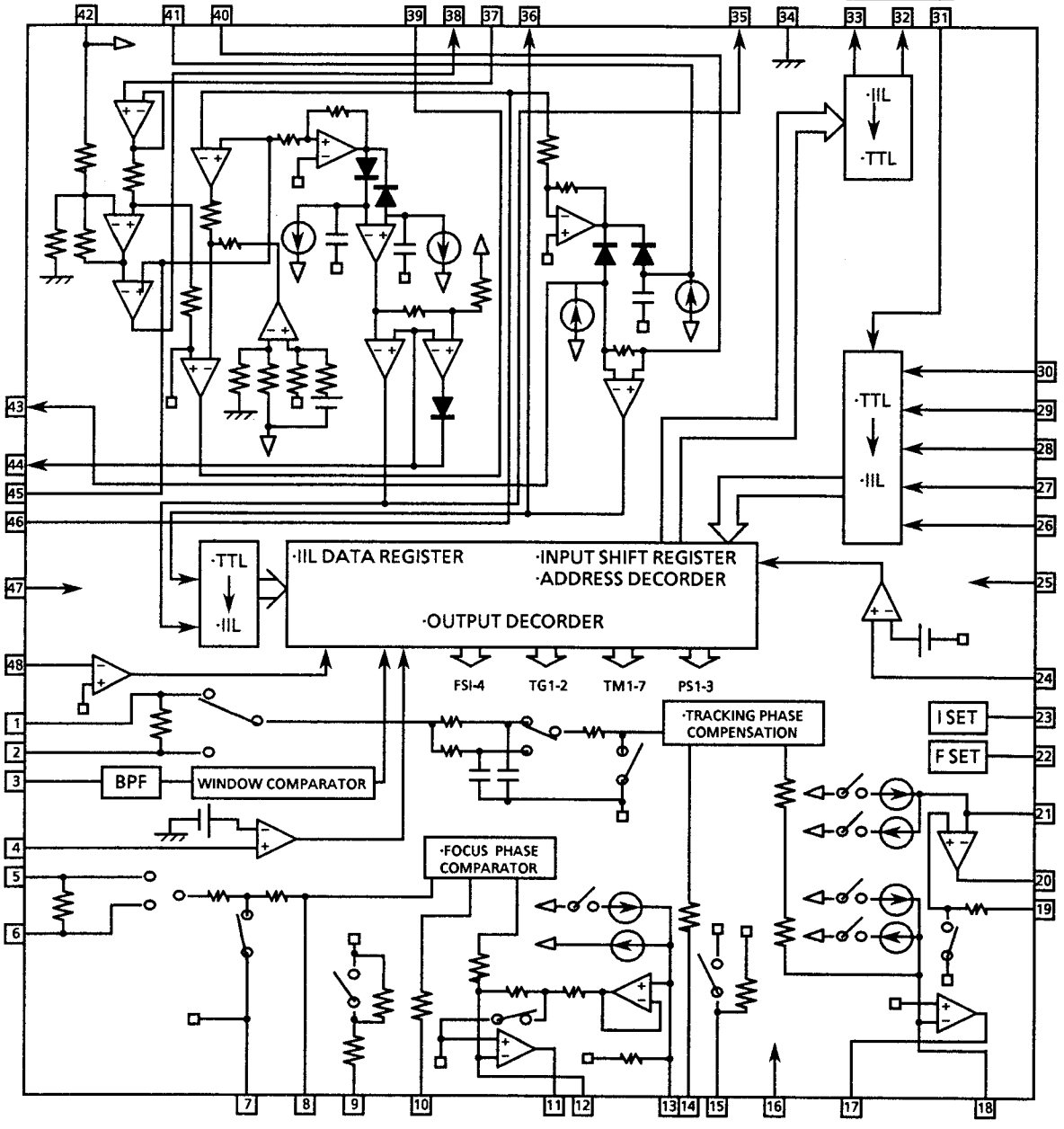
2.Functions

- Auto asymmetry control
- Focus OK detection circuit
- Mirror detection circuit
- Defects detection, counter measures circuit
- EFM comparator
- Focus servo control
- Tracking servo control
- Feed servo control

3.Terminal Layout

TE	1	48	TZC
TDFCT	2	47	DVEE
ATSC	3	46	RFO
FZC	4	45	RFI
FE	5	44	CP
FDFCT	6	43	CB
VC	7	42	DVCC
FGD	8	41	CC2
FS3	9	40	CC1
FLB	10	39	FOK
FEO	11	38	EFM
FE–	12	37	ASY
SRCH	13	36	DFCT
TGU	14	35	MIRR
TG2	15	34	DGND
AVCC	16	33	SENS
TAO	17	32	C.OUT
TA–	18	31	XRST
SL+	19	30	DATA
SLO	20	29	XLT
SL–	21	28	CLK
FSET	22	27	LOCK
ISET	23	26	DIRC
SSTOP	24	25	AVEE

4.Internal Block Diagram



5.Terminal Functions

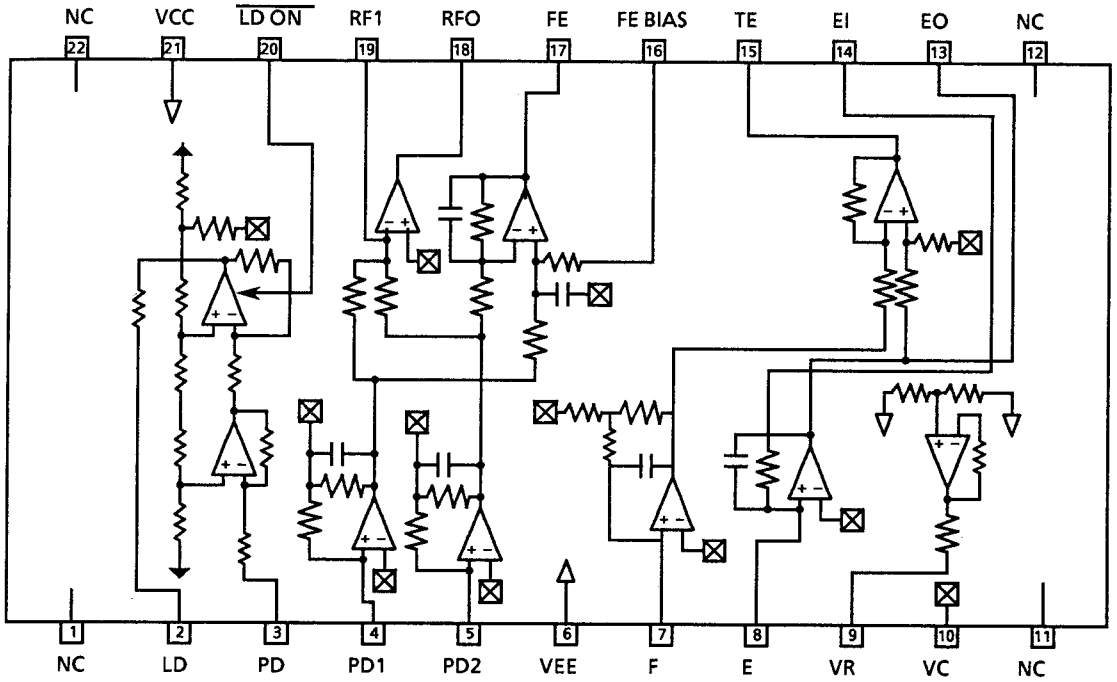
Pin No	Symbol	I/O	Function
1	TE	I	Input pin of tracking error amplifier.
2	TDFCT	I	Capacitor connecting pin for time constant during defects.
3	ATSC	I	Window comparator input pin for ATSC detection.
4	FZC	I	Pin for focus zero-cross comparator input.
5	FE	I	Input pin of focus error.
6	FDFCT	I	Capacitor connecting pin for time constant during defect functions.
7	VC	I	Center voltage input pin. For dual power: GND For single power supply: (VCC + GND)/2
8	FGD	I	Connect a capacitor between this pin and pin3 to reduce high-frequency gain.
9	FS3	I	The high-frequency gain of the focus servo is switched through FS3 ON and OFF.
10	FLB	I	Time constant external pin to raise the low bandwidth of the focus servo.
11	FEO	O	Focus drive output.
12	FE-	I	Inverse input for focus amplifier.
13	SRCH	I	Time constant external pin for formation of focus search waveform.
14	TGU	I	Time constant external pin for the selection of tracking high band gain.
15	TG2	I	Time constant external pin for the selection of tracking high band gain.
16	AVCC	--	Power supply
17	TAO	O	Tracking drive output.
18	TA-	I	Inverse input pin for tracking amplifier.
19	SL +	I	Non- inverse input pin for feed amplifier.
20	SLO	O	Feed drive output.
21	SL-	I	Inverse input pin for feed amplifier.
22	F SET	I	Pin to set peak frequency of focus tracking phase compensation and fo of CLV LPF.
23	I SET	I	Current is input to determine focus search, track jump, and feed kick height.
24	S STOP	I	Limit SW ON/OFF signal detection pin for disc inner periphery detection.
25	AVEE	--	– 5V
26	DIRC	I	Pin for one-track jump. Contains 47kΩpull-up resistor.
27	LOCK	I	At "L" feed runaway prevention circuit operate. Contains a 47kΩpull-up resistor.
28	CLK	I	Serial data transfer clock input from CPU.
29	XLT	I	Latch input from CPU.
30	DATA	I	Serial data input from CPU.
31	XRST	I	Reset input pin, reset at "L".
32	C.OUT	O	Track number count signal output.
33	SENS	O	Outputs FZC, AS, TZC and S STOP through command from CPU.
34	DGND	--	GND
35	MIRR	O	MIRR comparator output pin.
36	DFCT	O	Output pin of DEFECT comparator.
37	ASY	I	Input pin of auto asymmetry control.
38	EFM	O	Output pin of EFM comparator.
39	FOK	O	Output pin of FOK comparator.
40	CC1	I	Output pin of DEFECT bottom hold.
41	CC2	O	Input pin for the capacitance coupled output of DEFECT bottom hold.
42	DVCC	--	– 5V
43	CB	I	Connection pin of DEFECT bottom hold capacitor.
44	CP	I	Connecting pin of MIRR hold condenser. Non-inverted input pin of MIRR comparator.
45	RFI	I	Input pin with coupling capacitor where RF summing amplifier output is connected.
46	RFO	O	Output pin of RF summing amplifier and check point of eye pattern.
47	DVEE	--	– 5V
48	TZC	I	Input pin of tracking zero-cross comparator.

■ CXA1571S(IC702) : RF AMP FOR COMPACT DISC

1.Outline

The CXA1571S IC for compact disc 3-point method optical pickup output has following functions.
·RF amplifier · Focus error amp · Tracking error · APC circuit

2. Internal Block Diagram



3. Terminal Functions

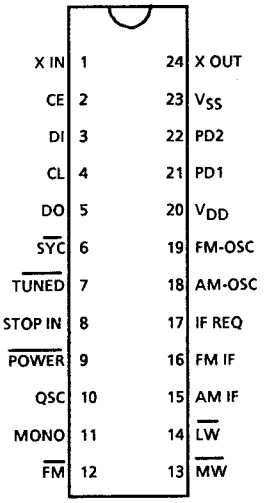
Pin No.	Symbol	I/O	Function
2	LD	O	APC amp output pin.
3	PD	I	APC amp input pin.
4 5	PD1 PD2	I I	RF I-V amp inverted input pins; they are connected to the A + C and B + D pins of the photodiode and receive current input.
7 8	F-IN E-IN	I I	F and E I-V amp inverted input pin; they are connected to Photodiodes F and E and receive current input.
9	VR	O	(VCC + VEE) / 2 DC voltage output pin.
10	VC	I	VC intermediate voltage input pin; when dual ± 5V power supplies are used, this pin is connected to GND; for a single + 5V power supply, it is connected to the VR pin.
13	EO	O	Monitor output pin for I-V amp E.
14	EI	I	Gain adjustment pin for I-V amp E.
15	TE	O	Tracking error amp output pin.
16	FE-BIAS	I	Bias adjustment pin for the mon-inverted side of the focus error amp.
17	FE	O	Focus error amp output pin.
18	RF O	O	RF amp output pin.
19	RF I	I	RF inverted side input pin; the resister connected between this pin and the RFO pin determines the gain of theRF amp.
20	$\overline{\text{LD-ON}}$	I	This pin switches the APC amp on / off: on for VCC, off for ground.

■ LC7218 (IC102) : PLL Synthesizer

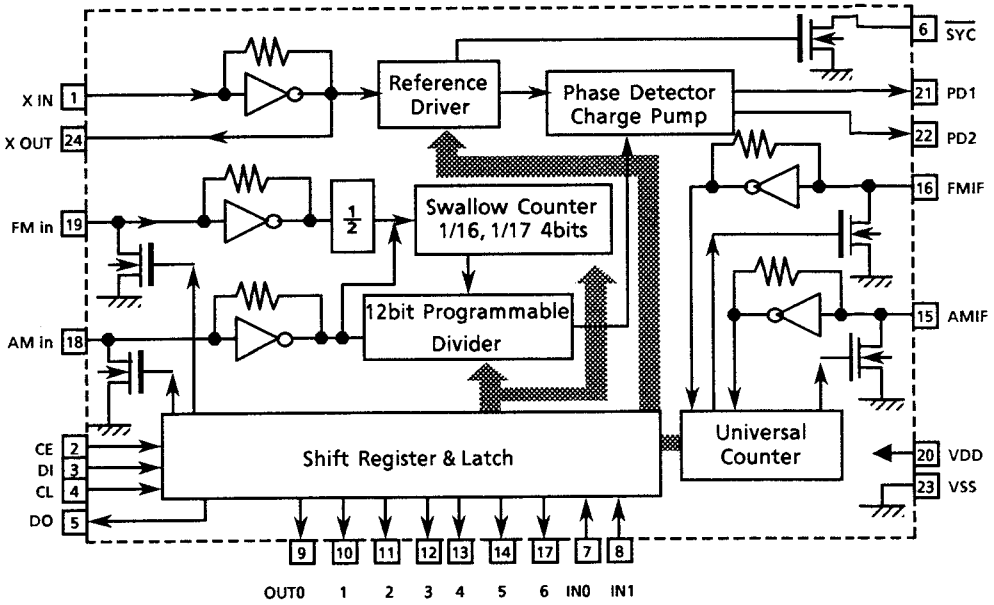
1. The main function descriptions

(1) It makes the local oscillation frequency by the control data from IC901.
(2) Decode the control signal and transmit the signal for receiving conditions.
(3) For the best tuning, count the internal-frequency and transmit the data to IC901.

2. Terminal Layout



3. Block Diagram



4. Pin Functions

Pin No.	Symbol	I/O	Functions
1,24	X in , X out	I/O	Crystal oscillator (7.2MHz).
2	CE	I	Fix the chip enable to "H" when inputting (DI) and outputting (DO) the serial data.
3	DI	I	Receive the control data from the controller (IC801).
4	CL	I	This clock is used to synchronize data when transmitting the data of DI and DO.
5	DO	O	Transmit the data from LC7218 to the controller which is synchronized with CL.
6	SYC	—	Not used.
7	TUNED	I	Receive the tuned signal from IC104 (LA1266A).
8	STOP IN	—	Connected to GND
9	POWER	—	Not used.
10	QSC	—	Not used.
11	MONO	O	It is "H" on FM-monaural, "L" on FM-Stereo.
12	FM	O	It is "L" on FM mode.
13	MW	O	It is "L" on MW mode.
14	LW	O	It is "L" on LW mode.
15	AM-IF	I	Universal counter input for AM-IF from IC104 (LA1266A).
16	FM-IF	I	Universal counter input for FM-IF from IC104(LA1266A).
17	IF REQ	O	Output the "IF-signal request" to IC104 when the pin-7 (tuned in) goes to "H".
18	AM OSC	I	Input the local oscillator signal of AM.
19	FM OSC	I	Input the local oscillator signal of FM.
20	V_{DD}	—	This is a terminal of power supply.
21	PD1	O	PLL charge pump output : When the local oscillator signal frequency is higher than the reference frequency high level signals will output. When it is lower than the reference frequency, low level signals will output. When it is same as reference frequency signals, it will be floating.
22	PD2	—	Not used.
23	Vss	—	Connected to GND

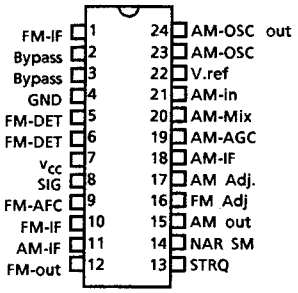
■ LA1266A (IC104) : FM AM IF AMP & detector

1. The main function descriptions

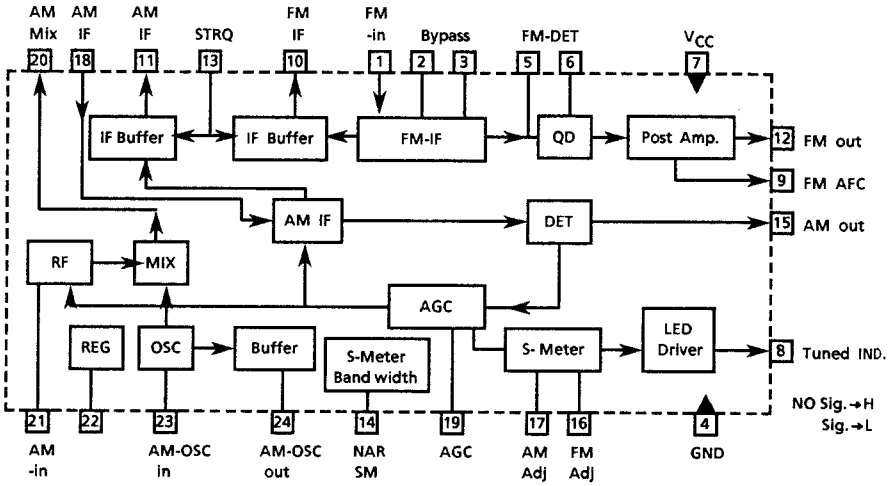
(1) Amplify and detect of FM intermodulation frequencies.

(2) It has local oscillator and mixer for AM, and amplify the AM-IF signal.

2. Top View



3. Block Diagram



4. Pin Function Description

Pin No.	Symbol	I/O	Functions and Operations
1	FM IF	I	This is an input terminal of FM IF Signal.
2, 3	Bypass		Bypass of FM IF Amp.
4	GND		This is the device ground terminal.
5, 6	FM DET		FM detect transformer.
7	V_{CC}		This is the power supply terminal.
8	SIGNAL	O	Mute drive and signal stop drive output when tuning. Active Low
9	FM AFC	O	This is an output terminal of voltage for FM-AFC.
10	FM IF	O	When the IF REQ signal of IC102(LC7218) applies to pin13, the signal of FM IF outputs.
11	AM IF	O	When the IF REQ signal of IC102(LC7218) applies to pin13, the signal of AM IF outputs.
12	FM out	O	FM detection output.
13	STRQ	I	The IF-signals come out from pin10 (FM-IF) or pin11 (AM-IF) while this terminal goes to "High".
14	NAR SM		Control the Band-width of AM signal meter.
15	AM out	O	AM detection output.
16	FM Adj		For adjust the stop level (or mute level) of FM.
17	AM Adj		For adjust the stop level (or mute level) of AM.
18	AM-IF	I	Input of AM IF Signal.
19	AM-AGC	I	This is an AGC voltage Input terminal for AM.
20	AM-MIX	O	This is an output terminal for AM mixer.
21	AM-IN	I	This is an input terminal for AM RF Signal.
22	V.REF		Control the Band-width of FM signal meter.
23	AM-OSC		This is a terminal of AM Local oscillation circuit.
24	AM-OSC out	O	AM Local Oscillation Signal output.

■ IC105 : LA3401 (FM MPX Detector)

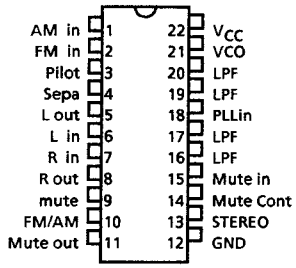
1. The main function descriptions

(1) Detect the FM Multiplex Signal (Stereo signal).

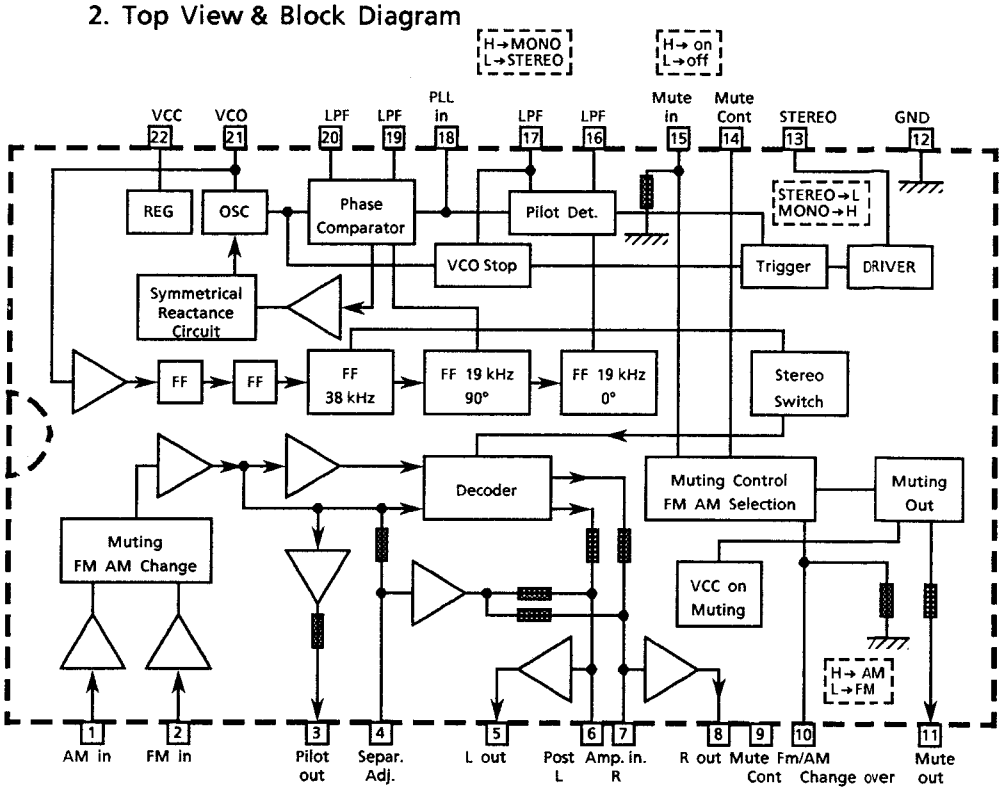
(2) When receiving FM Stereo Signal, it outputs the signal for indicator.

(3) AM/FM Audio Amplifier.

(1) Terminal Layout



2. Top View & Block Diagram



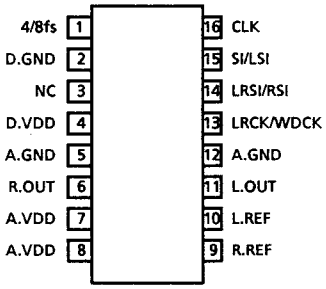
3. Pin Function Description

Pin No.	Symbol	I/O	Functions and Operations
1	AM in		This is an input terminal for AM detection signal.
2	FM in		This is an input terminal for FM detection signal.
3	Pilot out		Output of MPX pilot signal (Connect to Pin18).
4	Sepa. Adj.		Separation adjustment.
5	L. out	O	Left channel signal output.
6	L	O	Reversal output of Pin5.
7	R	O	Reversal output of Pin8.
8	R out	O	Right channel signal output
9	Mute Cont		The mute time is controlled by the connected capacitor when turning the power switch on.
10	$\overline{\text{FM}}$/AM	I	Change over the FM/AM input. "H" : AM, "L" : FM
11	Mute out	---	Not use
12	GND		Ground terminal.
13	$\overline{\text{Stereo}}$	O	Stereo indicator output. Stereo : "L", Mono : "H"
14	Mute Cont		The mute time is controlled by the connected capacitor when changing over the FM/AM .
15	Mute in	I	MutE signal input. "H" : Mute on, "L" : Mute off.
16	LPF		Low pass filter of pilot detector.
17	LPF		While this terminal goes to "H", the VCO stop.
18	Pilot in		PLL input.
19	LPF		Low-pass filter of PLL.
20	LPF		Low-pass filter of PLL.
21	VCO		Voltage controlled oscillator terminal.
22	V_{CC}		Power supply.

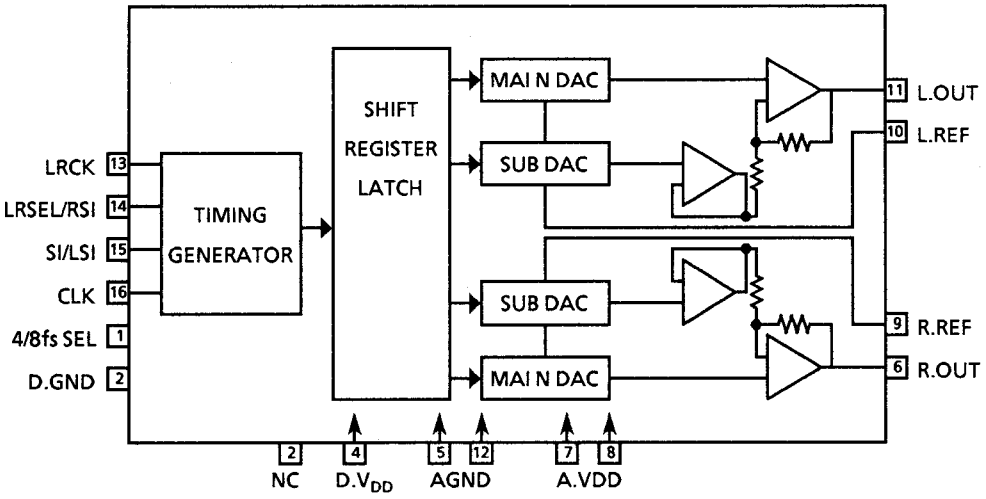
Internal Block Diagram of Other ICs

■ UPD6376GX (IC751) : D/A CONVERTER

1. Terminal Layout

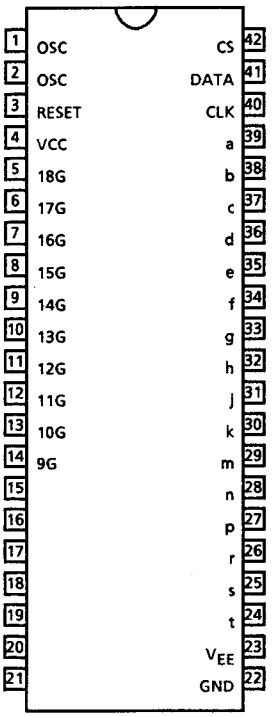


2. Block Diagram



■ MSC7112 (IC802) : Flourescent Dispaly Driver

1. Terminal Layout

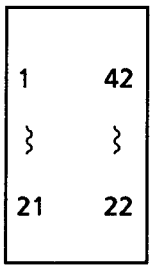


2. Terminal Functions

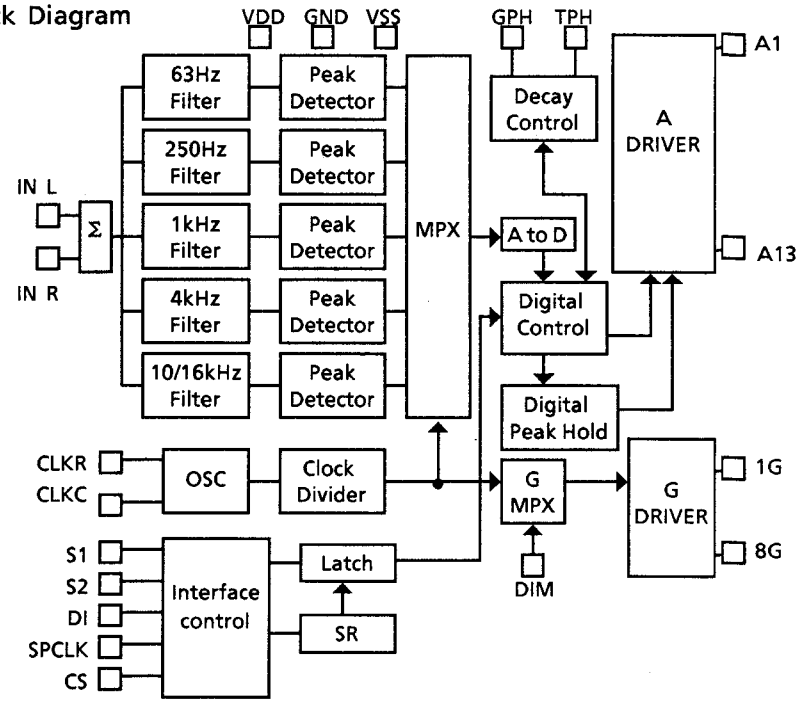
Pin No.	Pin Name	I/O	Functions
1 2	OCS OSC	I O	Input to the oscillator circuit. Oscillator circuit is made up by connecting an external capacitor and resistor.
3	RESET	I	Reset signal input to the internal logic circuit when turning on.
4	VCC	-	Power Supply
5~14	9G~18G	O	FL display tube drive signal.
15~21	—	-	Not used
22	GND	-	GND
23	V_{EE}	-	$V_{DD}-V_{EE}$: Power supply for the FL drive circuit.
24~39	a~t	O	FL display tube drive signal.
40	CLK	I	Clock signal to the shift register.
41	DATA IN	I	Displa data to the sshift register.
42	CS	I	Clock signal for the display data.

■ XR1095CP (IC803) : Display Driver

1. Terminal Layout



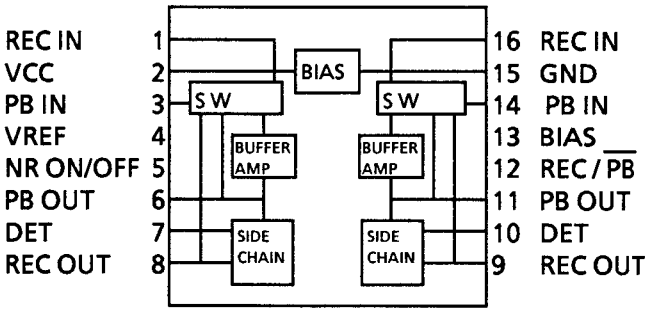
2. Block Diagram



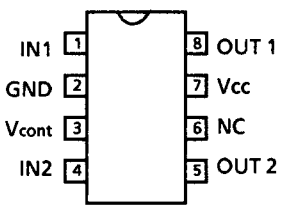
3. Terminal Functions

Pin No.	Symbol	Function	Pin No.	Symbol	Function
1~5, 9~16	T1~T13	FL anode control	25	R IN	Audio signal input
			26	L IN	Audio signal input
6~8	---	Not used	27	GPH	The resistor and capacitor connected to this pin determine the peak hold time.
17	CS	Chip select	28	TPH	
18	SPCLK	Clock for data transmission	29,31,39	---	Not used
19	SPDATA	Serial data input	30,32~38	1G~8G	FL grid control
20~22	---	connected to GND	40	CLKR	A resistor is connected for oscillation
23	VSS	Power supply(-)	41	CLKC	A capacitor is connected for oscillation
24	GND	Ground	42	VDD	Power supply (+)

■ HA12136A (IC381) : Noise Reduction Amplifier



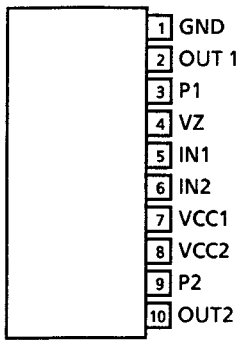
■ LB1639-CV (IC404) : Motor Driver

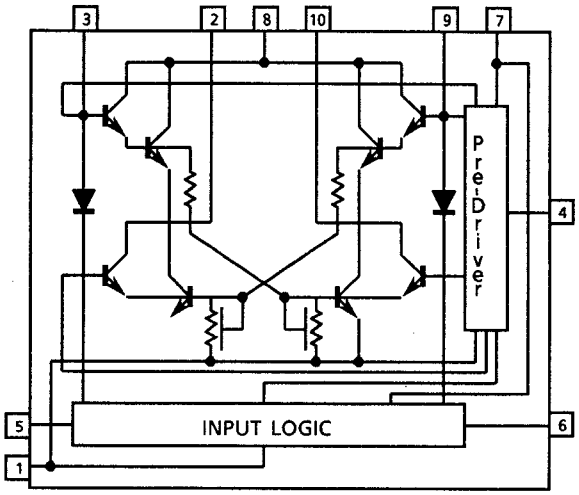


IN 1	IN 2	OUT 1	OUT 2	MOTOR
H	L	H	L	CLOCKWISE
L	H	L	H	COUNTER-CLOCKWISE
H	H	OFF	OFF	WAITING
L	L	OFF	OFF	WAITING

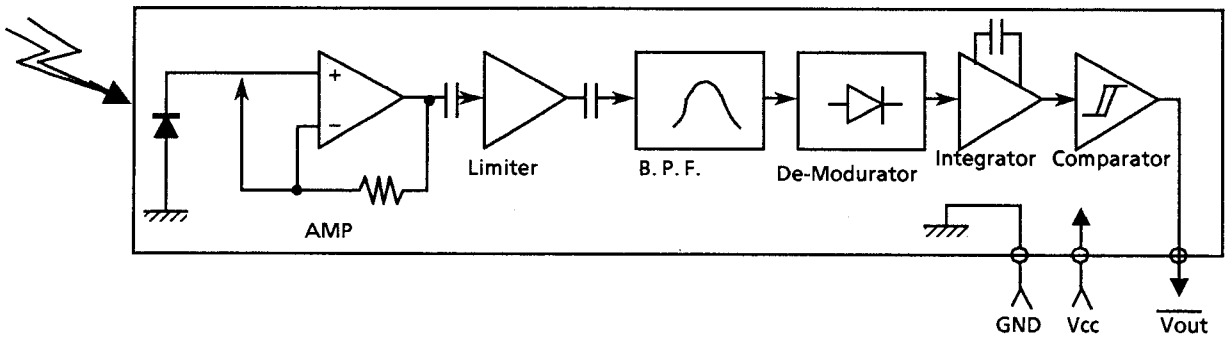
■ LB1641 (IC921~924) : Motor Driver

1. Terminal Layout





■ SPS-420-1 (IC804) : Remote control Module IC

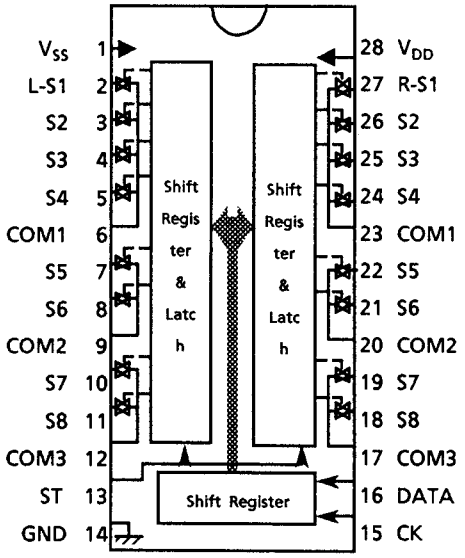


■ TC9164N (IC403) : Analog Switch

1. Functions
These analog switches are controlled by 14 bit serial date from computer for selecting the source.

2. Terminal Layout & Block diagram

TC9164N(IC403)



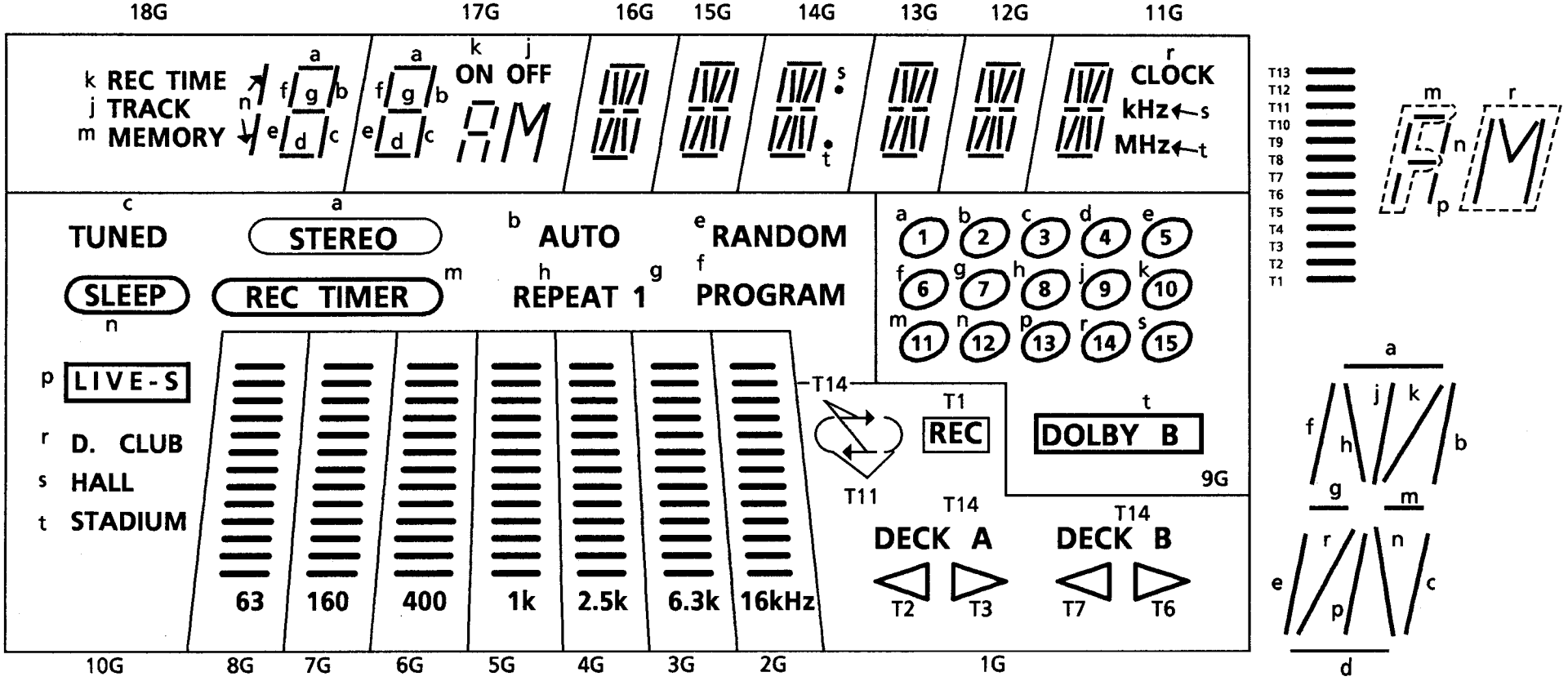
TERMINAL CONNECTION

(UPPER)

TERMINAL NO.	68	67	66	65	64	63	62	61	60	59	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42	41	40	39	38	37	36	35
ELECTRODE	F1	F1	F1	NP	P a	P b	NP	P c	P d	P e	P f	P g	P h	P j	P k	P m	P n	P p	P r	P s	P t	18G	17G	16G	15G	14G	13G	12G	11G	10G	9G	F2	F2	F2

(LOWER)

TERMINAL NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
ELECTRODE	F1	F1	F1	NP	NC	8G	7G	6G	5G	4G	3G	2G	1G	NP	NP	NP	P T14	P T1	P T2	P T3	P T4	P T5	P T6	P T7	P T8	P T9	P T10	P T11	P T12	P T13	NP	F2	F2	F2



Disassembly Procedures

(1) Removing the Top cover

1. Remove 2 screws fastening both sides of the top cover, and 6 screws fastening the rear side.

(2) Removing the Front panel

1. Remove the top cover.
2. Disconnect the connectors.
   (P201,P202 From cassette mechanism)
   (J403 from Vorume P.C. Board)
   (JB702 Flat card from Front P.C. Board)
   (JA703 Flat card to CD P.C. Board)
3. Cut the tie band Ⓑ.
4. Remove 3 screwsⓒ fastening the bottom , and 2 screws fastening the side of the front panel assembly.
5. Remove the front panel.

(3) Removing the Cassette mechanism

1. Remove the front panel.
2. Remove the screws Ⓓ and the screws Ⓔ. Screws Ⓓ are the double line screws for plastic .
   Screws Ⓔ are the tapping screws for chassis.
3. Open the cassette doors and remove the mechanism.

(4) Removing the Cassette door

1. Remove the cassette mechanism.
2. Disconnect the cassette springs from the cassette brackets.
3. Remove the the damper units
4. Remove the screws holding the cassette brackets and then remove the cassette brackets.
5. Remove the cassette doors.

(5) Removing the Cassette switch P.C. Board

1. Remove the front panel.
2. Remove the cassette mechanism .
3. Remove the 7 hooks holding the cassette switch P.C. Board.
4. Remove the cassette switch P.C. Board.

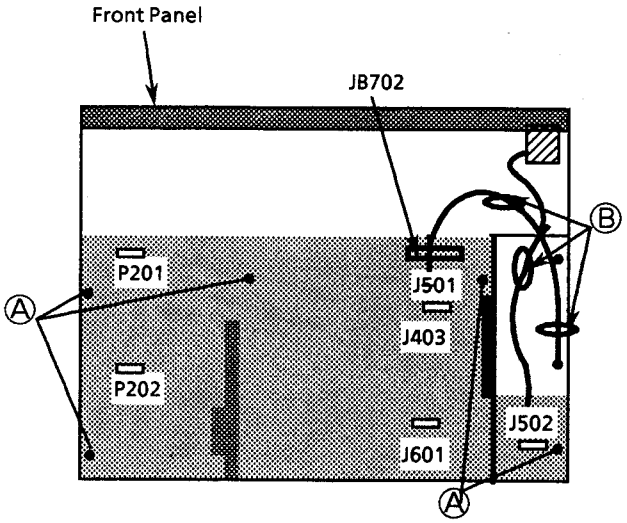


Fig 1. Top View

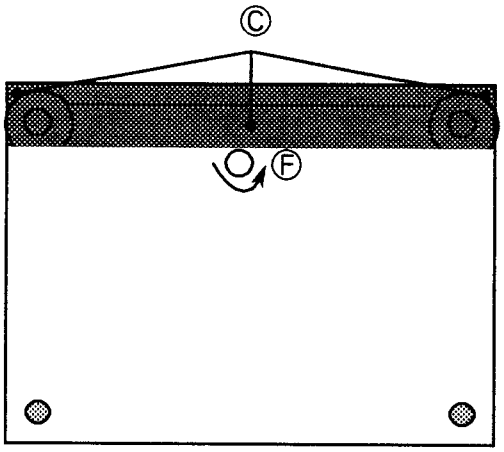


Fig 2. Bottom View

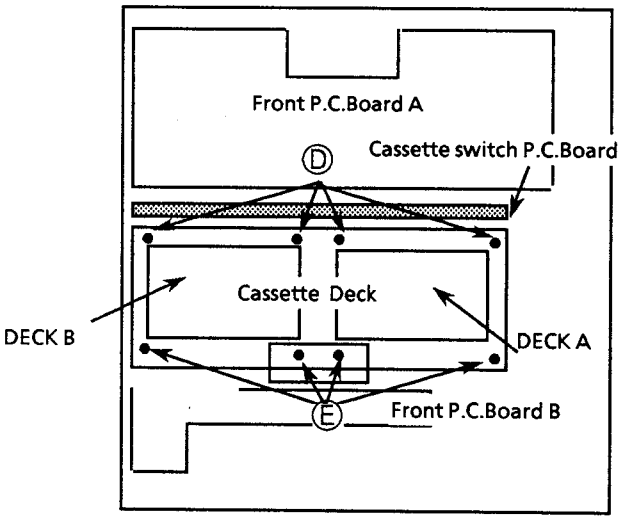


Fig 3. Rear side of the Front panel

(6) Removing the Master volume

1. Pull off the master volume knob.
2. Remove the nut fixing the master volume.
3. Remove the master volume and shield BKT.

(7) Removing the CD tray Ass'y

1. Remove the top cover.
2. Remove the front panel .
3. Insert a Philips screwdriver through the hole Ⓕ on the bottom and tune.
4. Remove screw Ⓗ on the tray.
5. Pull the tray toward the front to move it.

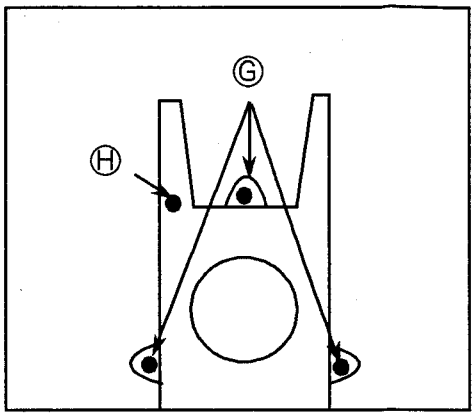


Fig 4. Top View (CDmechanism Assy)

(8) Removing the CD mechanism Ass'y

1. Remove the top cover.
2. Remove the front panel .
3. Disconnect the connectors P601,P602, P603.
4. Remove 3 screws Ⓖ holding the mechanism Ass'y.
5. Remove the changer mechanism Ass'y.

(9) Removing the Main P.C. Board

1 Remove the connectors(P201,P202)and flat wires (J402,J501,J502,J601,JB702) .
2. Remove 5 screws Ⓐ .
2. Remove 5 screws Ⓘ and Ⓙ .
3. Remove the Main P.C.Board .

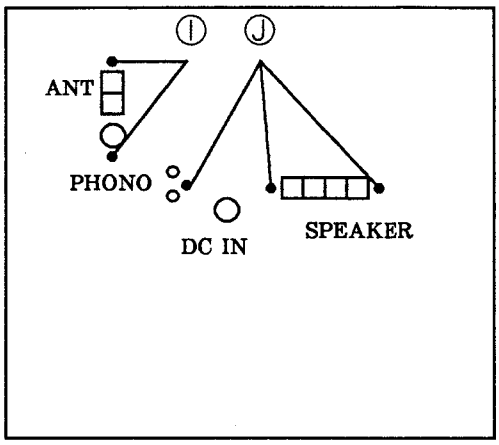


Fig 5. Rear View

(10) Removing the CD P.C. Board

1. Disconnect the connectors P601,P602, P603,JA703.
2. Remove the 5 screws retaining the CD P.C. Board .
3. Remove the CD P.C. Board.

(11) Removing the Front P.C. Board

1. Remove the front panel.
2. Remove the volume knob.
3. Remove the flat wire J451.
4. Remove 9 screws .
5. Remove the front P.C. Board.

Disassemble of the cd mechanism assembly

■ Pickup removal

1. Remove the cd mechanism assembly.
2. Release the shaft to remove the pickup (Fig 6).

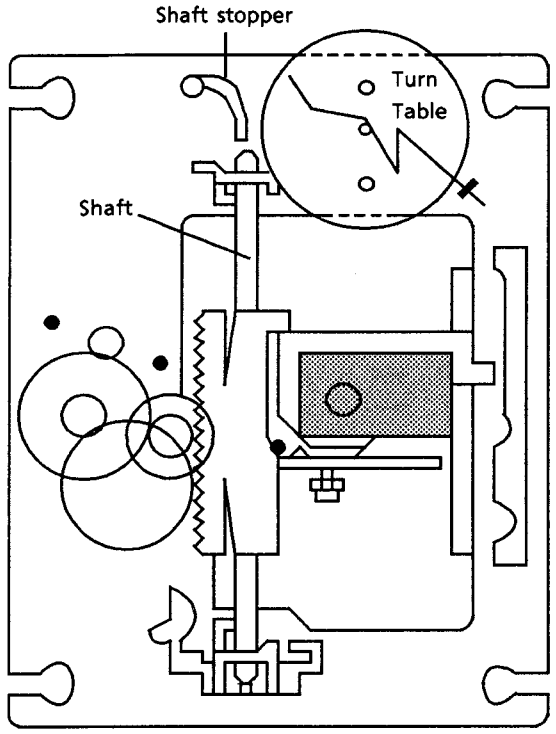


Fig 6 CD mechanism assembly

■ Spindle motor removal

1. Remove the cd mechanism assembly.
2. Remove the turntable, and remove the two screws retaining the spindle motor.
3. Remove the screws retaining the spindle and feed motor P.C. Board and unsolder it.

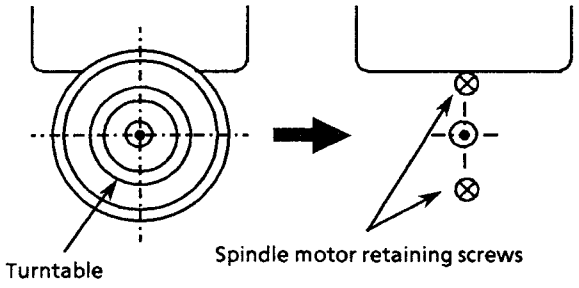


Fig 7

■ Spindle motor installation

1. Tighten the 2 screws to the same torque.
2. Fasten the spindle and feed motor P.C. board with the screw and solder.
3. Install the turntable. When installing, press straight down at the center of the turntable until the distance from the surface of the mechanism base to the turntable is exactly 19.4±0.1mm.

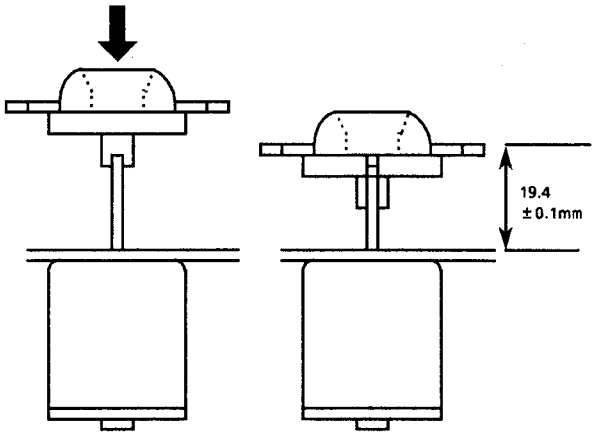


Fig 8

4. After inserting the turntable, bond the motor shaft and turntable together (at the section marked by an arrow in fig 9 on the left below).

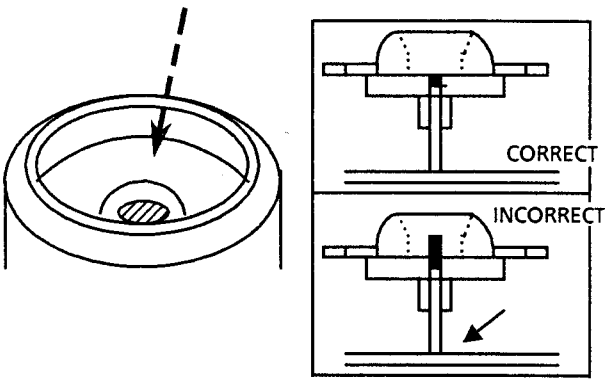


Fig 9

5. Use "LOCKTITE" #460 bonding agent, and apply as little as possible. Take care not to allow any excess bonding agent to get onto the turntable. Be extremely careful not to allow bonding agent to adhere to the motor bearings (the section marked by an allow in fig 9 on the right).

Disassemble of the cassette mechanism

(1) Cassette controller PCB (ENJ-176-3) removal

1. Remove the cassette mechanism assembly with the PCB.
2. Release 7 hooks to remove the cassette controller PCB (Fig 10).

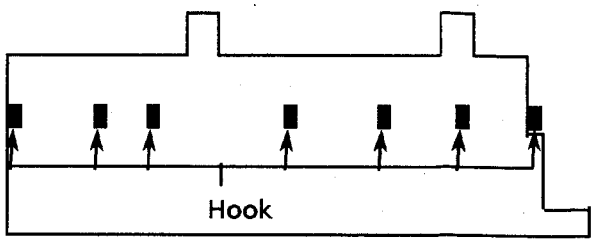


Fig 10

(2) Head assembly removal

1. Remove the cassette mechanism assembly.
2. Unsolder the flexible wire (Fig 12).
3. Remove the gear spring ① and 2 screws Ⓜ fixing the head assembly (Fig 15).

※ Note
The direction of the head is changed with the head gear. When servicing, install the head gear according to the direction of the head. Refer to fig 11.

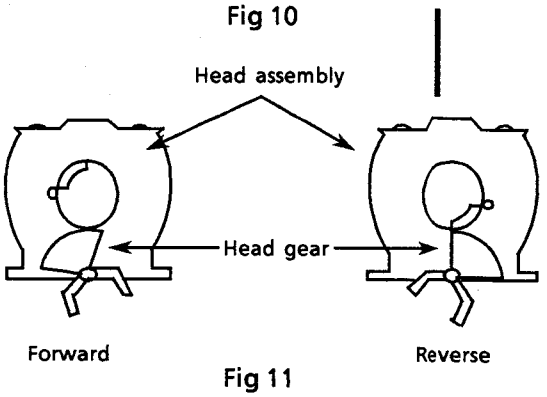


Fig 11

(3) Pinch roller arm assembly removal

1. Release the return spring (Fig 15).
2. Release the hook holding the pinch roller arm assembly to remove the assembly (Fig 12).

(4) Reel motor PCB removal

1. Remove the cassette mechanism assembly.
2. Remove the cassette controller PCB.
3. Remove the screw Ⓕ to remove the ENB-176-2 circuit board (Fig 13).
4. Remove the screw Ⓖ fixing the reel motor PCB.
5. Unsolder the reel motor PCB.
6. Remove the PCB.
   Be careful so that stress is not added to the terminals of the motor.

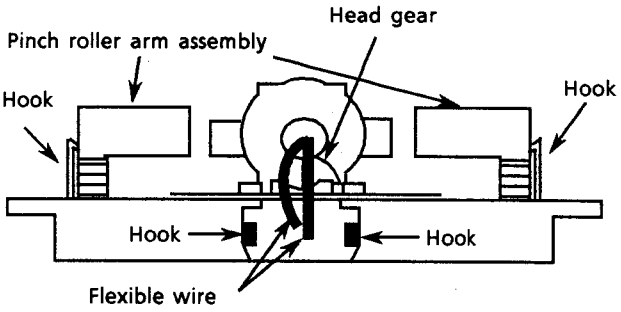


Fig 12

(5) Capstan motor removal

1. Remove the cassette mechanism assembly.
2. Remove the reel motor PCBs.
3. Remove 4 screws Ⓗ fixing the bracket and the hook holding the bracket (Fig 13).
4. Remove the motor with the bracket.
5. Remove 2 screws fixing the motor and the bracket.

(6) Reel motor removal

1. Remove the cassette mechanism assembly.
2. Remove the reel motor PCB.
3. Remove the FR arm assembly (Fig 15).
4. Remove the screw Ⓛ fixing the motor (Fig 15).
5. Remove the hooks fixing the motor to remove the motor.

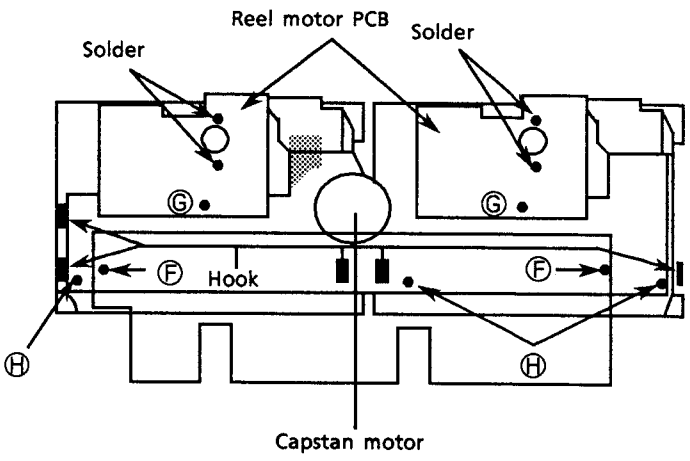


Fig 13

(7) Fly wheel removal

1. Remove the cassette mechanism assembly.
2. Remove the reel motor PCB.
3. Remove the screws Ⓗ and the bracket (Fig 13).

※ To install the bracket

1. Install the belt of mechanism A as shown in fig 14.
2. Assemble the mechanism A and the bracket with the capstan motor.
3. Hang the belt of the mechanism A to the motor pully using a tweezers and the like.
4. Hang the part Ⓙ to the Idler pully.
5. Install the mechanism B installed the belt as shown in fig 16 to the bracket which is assembled with the mechanism A.
6. Hang the part Ⓚ to the motor pully using a tweezers and the like.

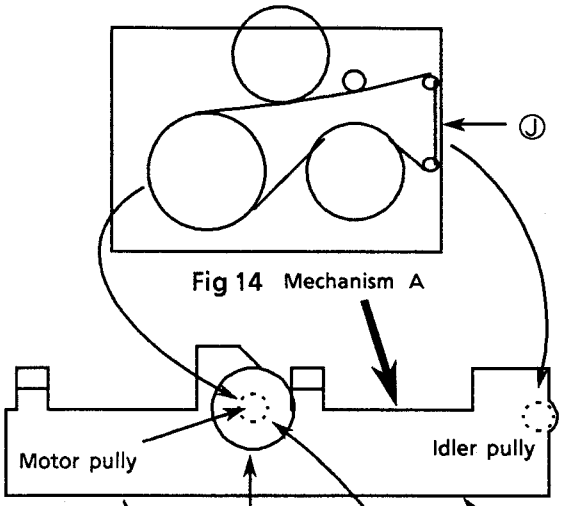


Fig 14 Mechanism A

Fig 15

(8) Cam switch PCB removal

1. Remove the fly wheel.
2. Remove the hooks fixing the PCB to remove the cam switch. When assembling the cam switch, install it so that the part Ⓝ meets the part Ⓞ (Fig 18).

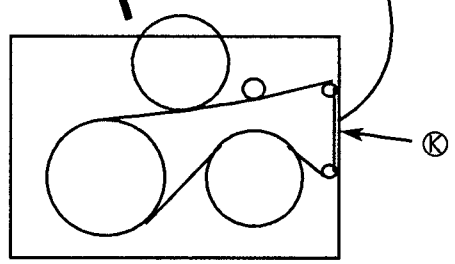


Fig 16 Mechanism B

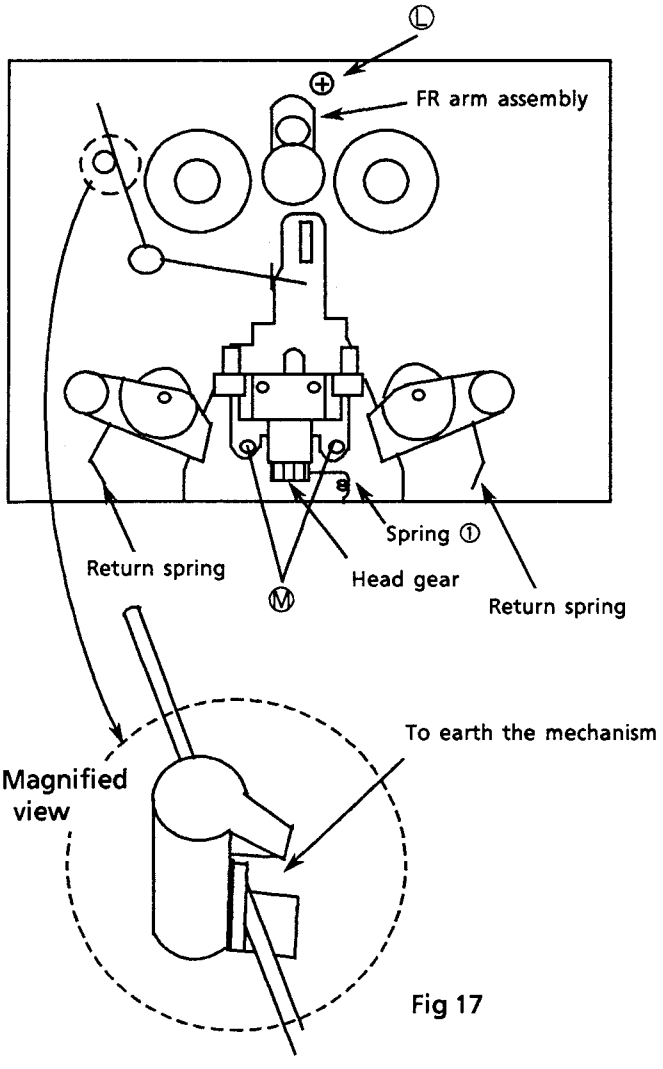


Fig 17

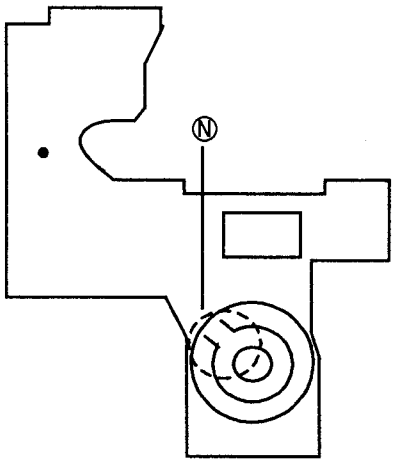
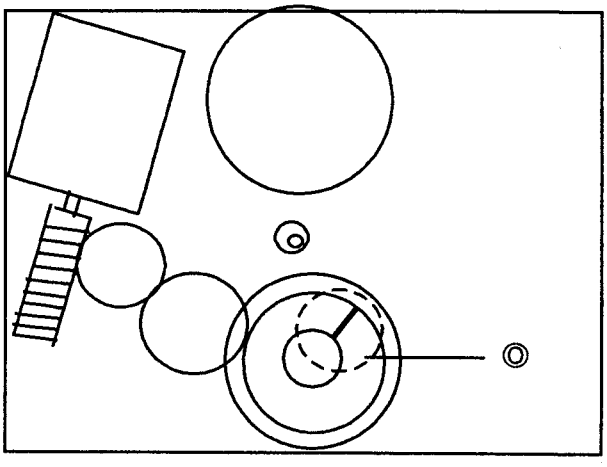


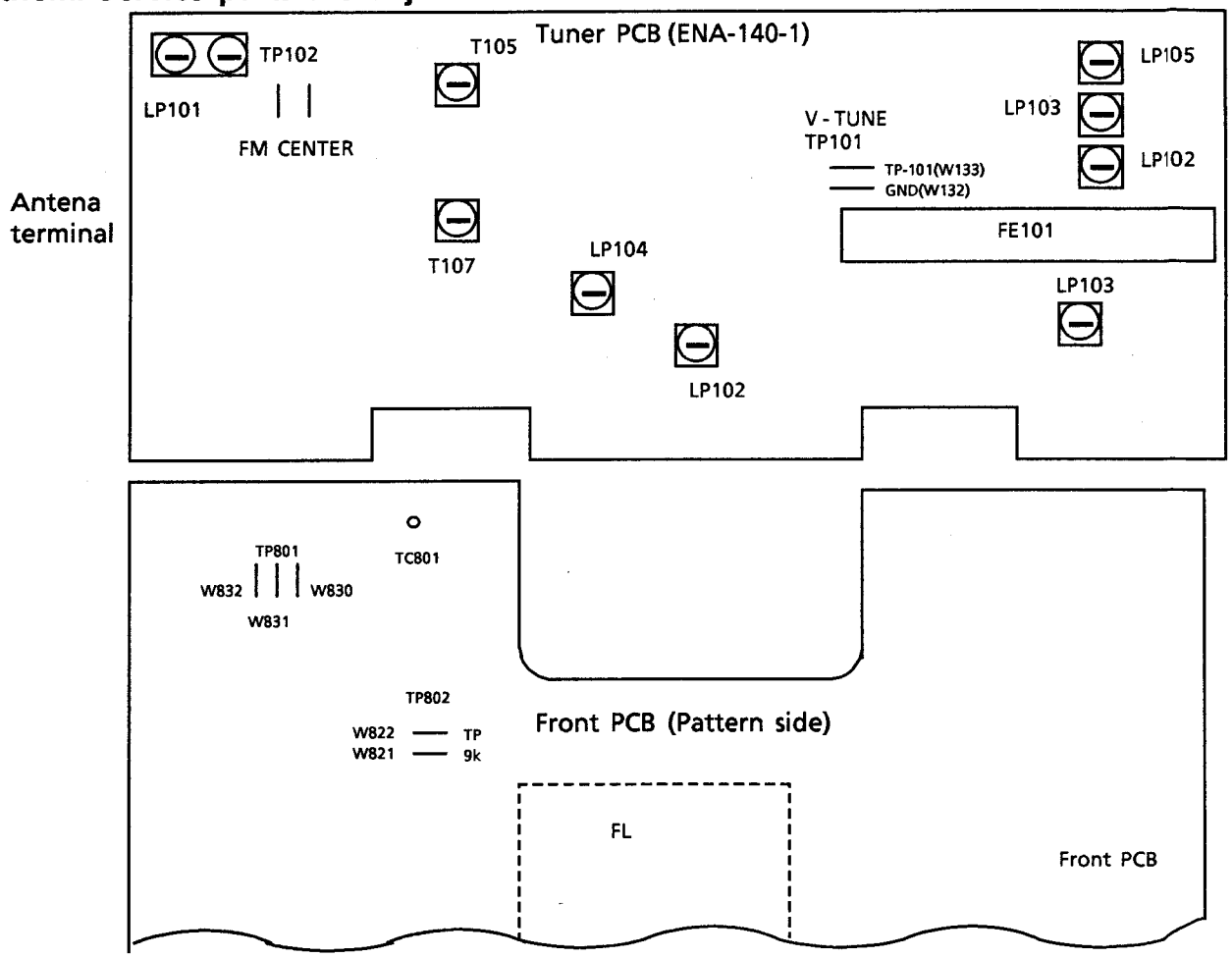
Fig 18



Adjustment Procedures

■ Tuner section

Don't adjust the semi-fixed resistors and coils except below mentioned. If you have them out of the values previously adjusted by mistake, replace them. Service parts are adjusted.



(1) Tuning voltage

Confirm the voltages in the table below at TP101. If the voltages are not satisfied, replace T102 for AM or FE101 for FM.

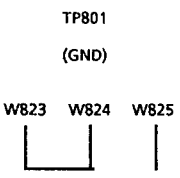
Frequency	FM (V)			MW (V)				LW (V)		
	64.0MHz	87.5MHz	108MHz	522KHz	530KHz	1629KHz	1710KHz	144kHz	290kHz	353kHz
East Europe	1.7±0.7	—	8.0±2.0	0.5~1.0	—	7.5~8.5	—	0.5~1.0	—	6.5~9.0
U.S.A., Canada	—	1.6±1.0	8.0±2.0	—	0.5~1.0	—	8.0~9.0	—	—	—
the U.K., Continental Europe	—	1.6±1.0	8.0±2.0	0.5~1.0	—	7.5~8.5	—	0.5~1.0	—	6.5~9.0
Italy	—	1.6±1.0	8.0±2.0	0.5~1.0	—	7.5~8.5	—	0.5~1.0	5.0~7.5	—
Australia	—	1.6±1.0	8.0±2.0	0.5~1.0	—	7.5~8.5	—	—	—	—

(2) FM detector coil

Receive a broadcast by using the function of 'AUTO STOP'.
Adjust T105 so that the voltage at TP102 becomes 0±1.5mV.

(3) Frequency of the clock

1. After connecting a wire between W823 and W824 as shown right, connect ac power cord into ac outlet.
2. Confirm that the display is off and remove a wire.
3. Connect a frequency counter between Ww824 and W825.
4. Adjust TC801 so that the frequency becomes 34952.5±0.15Hz.



■ Deck Section

1. Measuring instruments

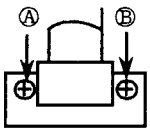
Audio frequency signal generator (0dbs output at the 600 ohm output terminal from 50Hz to 20KHz)
Electronic voltmeter
Frequency counter
Wow & Flutter meter
Distortion Meter with band pass filter
Attenuator (600 ohm impedance)
A resistor with 600Ω

Standard Tape **0dBs = 0.775V**

Tape No.	Frequency	Level (Wow & Fkutter)	Purpose
VTT-703L	10kHz	– 10dBs	Head azimuth , Frequency Response
VTT-712	3000Hz	0dBs 0.025%WRMS	Tape Speed , Wow & Flutter
VTT-724	1kHz	– 4dBs	Standard Level
TMT-6447	–	–	Blunk Skip
TMT-6247 , TMT-6237	–	–	Music Scan
TMT-7088	–	–	Recording standard Normal : UR(F)
AC-712	–	–	Recording standard METAL :MA
AC-513	–	–	Recording standard CrO_2 : SA
TW-2111, TW-2121	–	–	Forward / reverse play torque measuring
TW-2231	–	–	Feed forward / rewind torque measuring
C-120 Tape	–	–	Comfirming the tape running

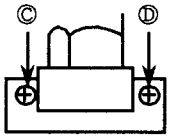
2. Adjustment and repairing the mechanism

Item	Adjustment method	Standard value	Remarks
Head azimuth	Deck A 1. Connect an electronic voltmeter to the DOLBY TP(figure 3) to playback VTT-703L. 2. Adjust screw Ⓐ so that the indication of the voltmeter becomes maximum when PLAY (▶) is pressed. 3. Adjust screw Ⓑ so that the indication of the voltmeter becomes maximum when PLAY (◀) is pressed. Deck B 4. Adjust screw Ⓒ so that the indication of the voltmeter becomes maximum when PLAY (▶) is pressed. 5. Adjust screw Ⓓ so that the indication of the voltmeter becomes maximum when PLAY (◀) is pressed. 6. After making the adjustment,apply screw lock to prevent screws Ⓐ , Ⓑ , Ⓒ and Ⓓ coming loose .	Maximum	1. **Refer to figure 1.** 2. When the specified characteristic cannot be obtained because of head wear, excessive magnetization, etc., replace the head assembly and adjust the head azimuth. Also, perform the electric adjustment. 3. When there is the difference of more than 3 ~ 4 dB between left and right output levels, replace the head assembly to avoid complaints.
Playback torque	1. Measure the torque in the playback mode by the torqu meter.	26 ~ 62 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Fast forward torque	1. Measure the torque in the fast forward mode by the torqu meter.	80 ~ 200 g-cm	When the standard torque cannot be obtained,replace the FR arm assembly or motor.
Rewind torque	1. Measure the torque in the rewind mode by the torqu meter.	80~ 200 g-cm	When the standard torque cannot be obtained, replace the FR arm assembly or motor.
Wow & flutter	1. Connect the wow & flutter meter to the DOLBY TP(figure 3) and play back VTT-712 . 2. Its reading should be within 0.2% (WTD).	—	As a complaint may occur if the wow & flutter fluctuates by 0.1% even though it is allowed in the standard, repairing is required.



Deck A

Figure 1



Deck B

3. Electrical Adjustments (Make the following adjustments after adjusting the head azimuth.)

In principle, the adjustments should be made in the following sequence.
Set the NR switch to OFF and the BEAT CUT switch to "1".
Adjustments marked with an asterisk (*) should always be made after the head is replaced **0dBs = 0.775V.**

	Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
1	Tape Speed	1. Connect a frequency counter to the DOLBY TP(figure 3) and play back VTT-712. 2. Normal speed Adjustment 1) Mechanism B Play back deck B to adjust the semi-fixed resistor R959 on ENB-177-2. 2) Mechanism A Play back deck A to confirm that the difference between deck A and deck B is within ±51Hz. 3. High-speed confirm 1) Mechanism B Play back deck B check 6000Hz	R959	3,000 Hz ±10Hz 6,000Hz ±600Hz	1) Adjust the normal speed first, and perform the high speed adjustment.
*2	Standard level (Playback Level)	1. Connect an electronic voltmeter to the DOLBY TP (figure 3). Play back VTT-724 (1 kHz: −4dBs) to adjust the semi-fixed resistors.	**Deck A** L: R251 R: R252 **Deck B** L: R253 R: R254	−5.5dBs (411mV) ±1dB	1) The playback level varies when the head is replaced so should be adjusted. Use an electronic voltmeter with an impedance of 100 kΩ or more.
*3	Playback Frequency Response	1. Connect an electronic voltmeter to the DOLBY TP (figure 3). 2. Play VTT-703L (10kHz: −10dBs) and adjust semi-fixed resistors to obtain the standard values.	**Deck A** L: R221 R: R222 **Deck B** L: R219 R: R220	−11.5dBs (206mV) ±3dB	—
*4	Recording Bias Frequency	1. Connect a frequency counter to the BIAS TP(figure 3), and perform a recording to adjust bias frequency.	L335	105 kHz +5 kHz -10 kHz	Set the BEAT CUT SWITCH to "1".
*5	Record / Play Frequency Response (Bias current)	1. Supply 1kHz and 12.5kHz with 150mV signals to CD T.P (figure 3) respectively to record them. 2. Connect an electronic voltmeter to the DOLBY TP (figure 3) to confirm the recorded values. 3. If the values are not satisfied, adjust the semi-fixed resistors and record the signals again to confirm the values.	L: R335 R: R336	0±3 dB for 12.5 kHz with 1 kHz as the standard.	**Refer to figure 2 below.** 1) The recording and playback frequency response of a cassette deck are adjusted by adjusting the bias. 2) Perform the adjustment with normal tape and confirm that the values are within the range for metal tape.

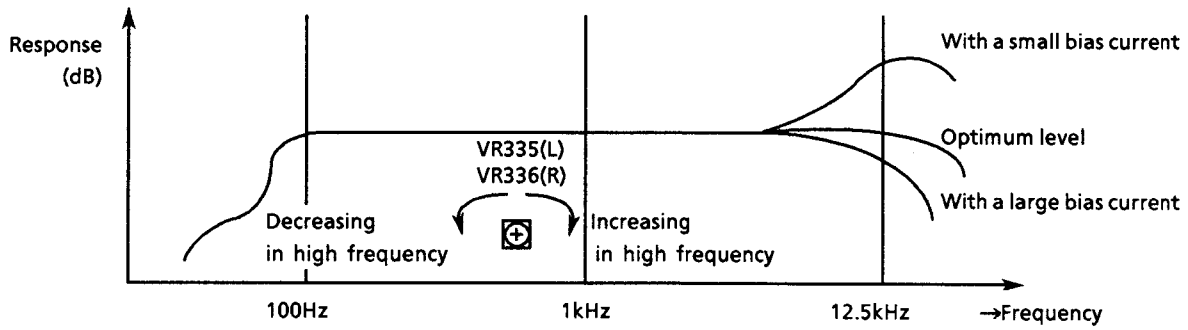
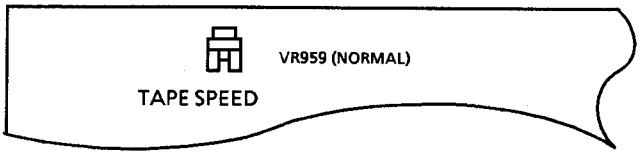


Figure 2

	Item	Adjustment Method	Adjustment Location	Standard Value	Remarks
* 6	Record / Playback Sensitivity	1. Input a 1 kHz (– 14.3dBs: 150mV) signal to CD TP (figure 3) and record it on the left and right channels . 2. Connect an electronic voltmeter to the DOLBY TP (figure 3) to confirm the recorded values. 3. If the values are not satisfied, adjust the semi-fixed resistors and record the signal again to confirm the recorded values.	L : R367 R : R368	– 5.5dBs (411mV) ± 1dB	Adjust with normal tape and make sure that the left / right level difference is 1.0dB or less
7	Erase ratio check	1. Record a music source using the CrO_2 tape. 2. Rewind and erase the recorded section. 3. Comfirm nothing can be heard.	–	–	–
8	Auto-stop check	1. Make sure to operate AUTO STOP at the end of tape running and not to operate on the way of the playing.	–	–	–
9	Music Scan	1. Make sure not to work the music scanning operation at the start of tape wind using TMT-6237. 2. Make sure to work the music scanning operation at the end of tape wind using TMT-6247.			

Mechanism controller PCB (ENB-176-2)



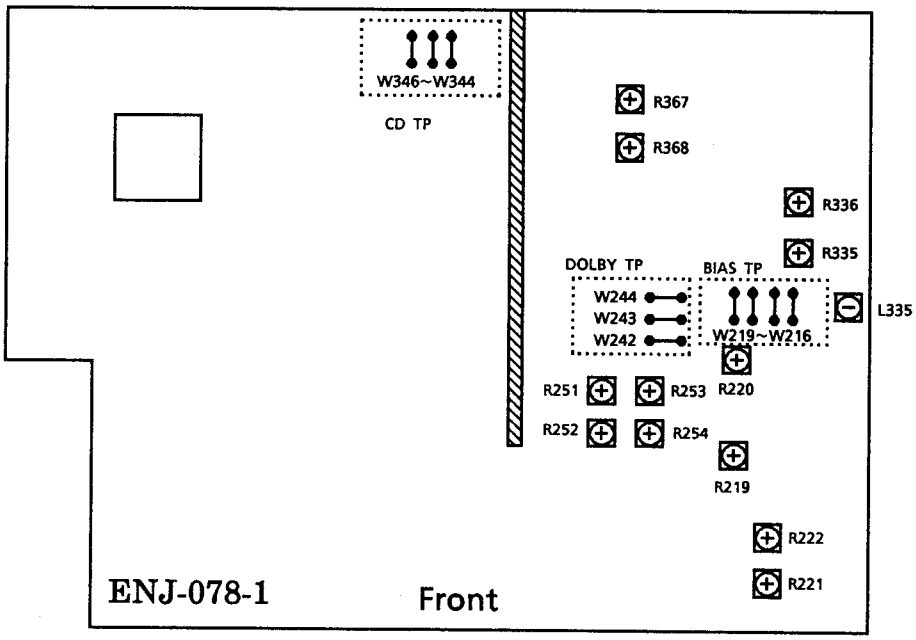


Figure 3

■ CD section

(1) Adjustment measure

Oscilloscope , Test disc (CRG-1117)

(2) Procedures

1) EF balance

① Connect TP2(TEST) with TP4(GND).

② Connect a oscilloscope between TP8(TEIN) and TP4(GND) and play the test disc.

③ Adjust R684 so that the center voltage of the waveform becomes 0±0.05V.

2) TE Level adjustment

If the gain is out of adjustment, the symptoms below will appear.

● Level too low

Mechanical shock occurs easily and sound is interrupted. Or time counter display stops counting.

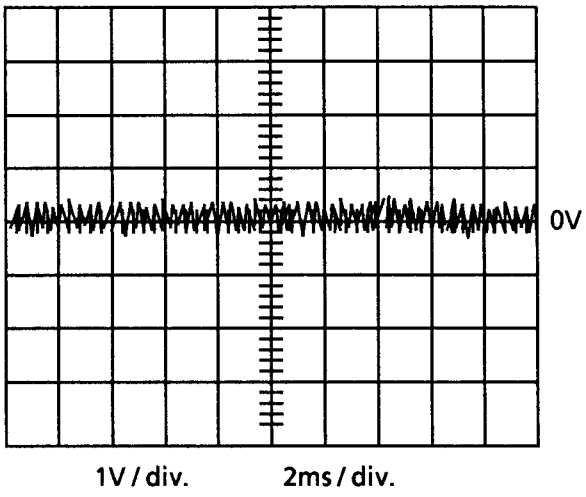
● Level too high

Since the follow-up ability of the pickup is too high, the pickup may oscillate and oscillating sound may output.

As described above, TE Level adjustment are performed to satisfy mutually contradictory characteristics. A simplified adjustment procedure is described below. However, since exact adjustment can not be performed prior to adjustments, note(or mark) the positions of the semi-fixed resistors.
If the positions after the adjustment are only different, return the VRs to their original position.

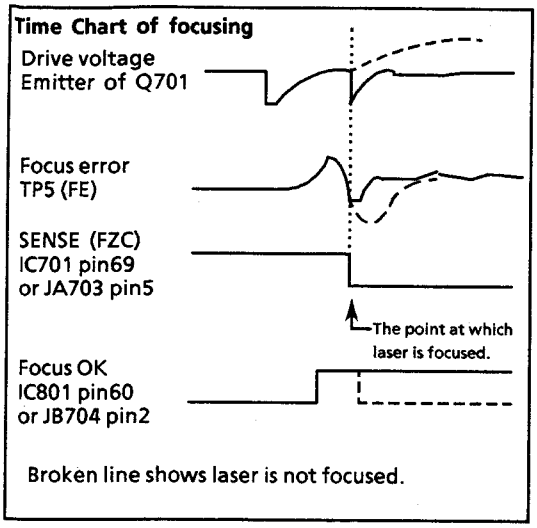
1. Connect an oscilloscope to TP 8(TEIN) and TP 4(GND).
2. Load the test disc and press the PLAY button.
3. Connect TP 2(TEST) with TP 4(GND).
4. Adjust R745 (TE Level ADJ.) so that the correct waveform as shown in figure 1 is obtain.

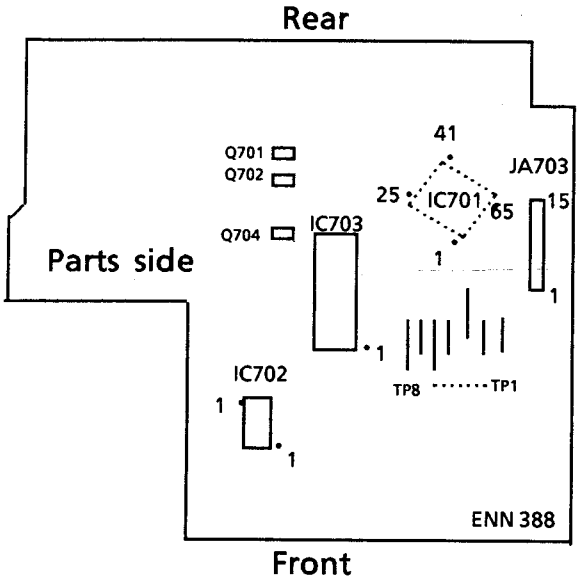
TE Level Adjustment

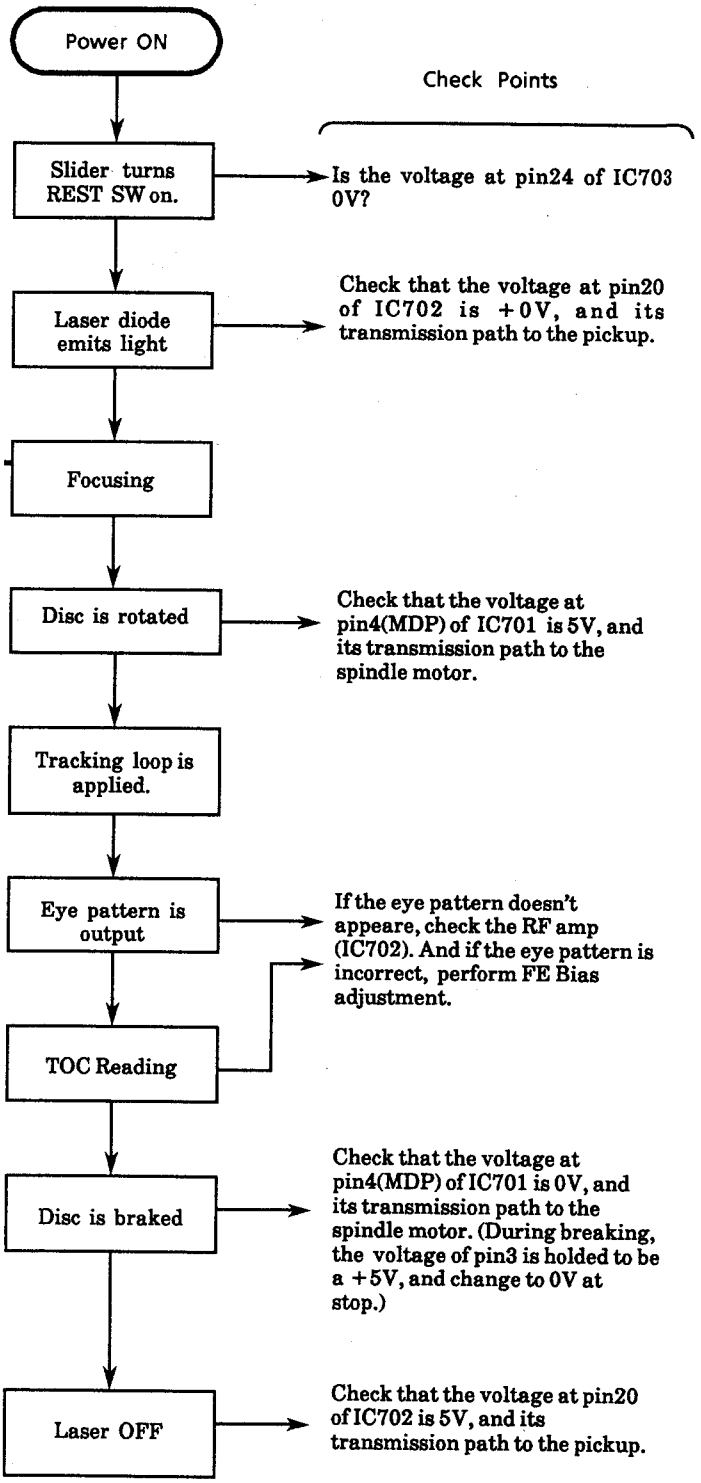


Figur1 3

Flow of Functional Operation Until TOC is Read





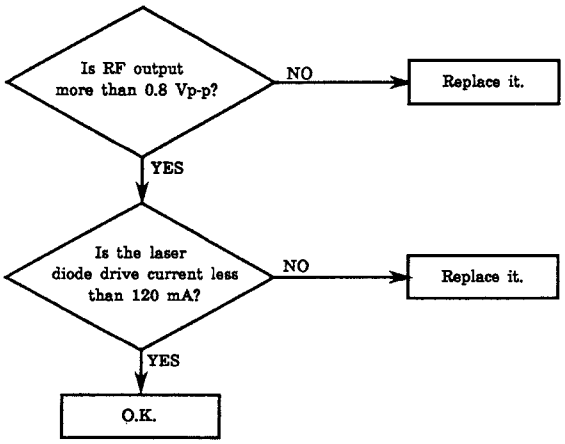

Power ON
Check Points
Slider turns REST SW on.
Is the voltage at pin24 of IC703 0V?
Laser diode emits light
Check that the voltage at pin20 of IC702 is +0V, and its transmission path to the pickup.
Focusing
Disc is rotated
Check that the voltage at pin4(MDP) of IC701 is 5V, and its transmission path to the spindle motor.
Tracking loop is applied.
Eye pattern is output
If the eye pattern doesn't appeare, check the RF amp (IC702). And if the eye pattern is incorrect, perform FE Bias adjustment.
TOC Reading
Disc is braked
Check that the voltage at pin4(MDP) of IC701 is 0V, and its transmission path to the spindle motor. (During breaking, the voltage of pin3 is holded to be a +5V, and change to 0V at stop.)
Laser OFF
Check that the voltage at pin20 of IC702 is 5V, and its transmission path to the pickup.

Maintenance of Laser Pickup

(1) Life of the laser diode

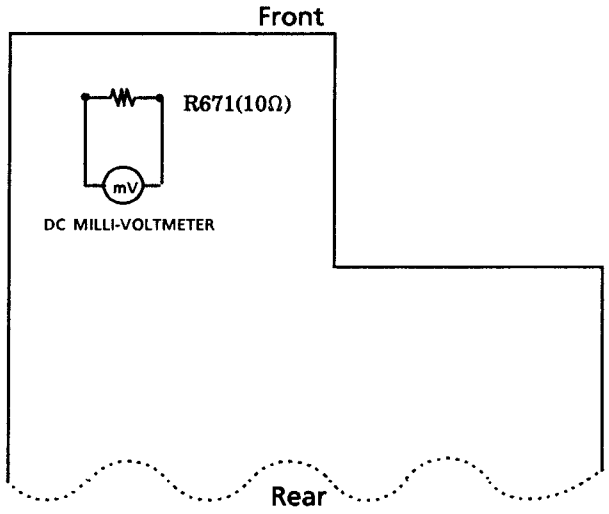
When the life of the laser diode has expired, the following symptoms will appear.

1. The level of RF output (EFM output: amplitude of eye pattern) will be low.
2. The drive current required by the laser diode will be increased.
   In such a case, check the life of the laser diode by the flowchart below



(2) Measurement of laser diode drive current

Measure the voltage across the resistor R671 by using a milli-voltmeter. When the voltage is more than 1.2V, it shows that the life of the laser diode has expired.



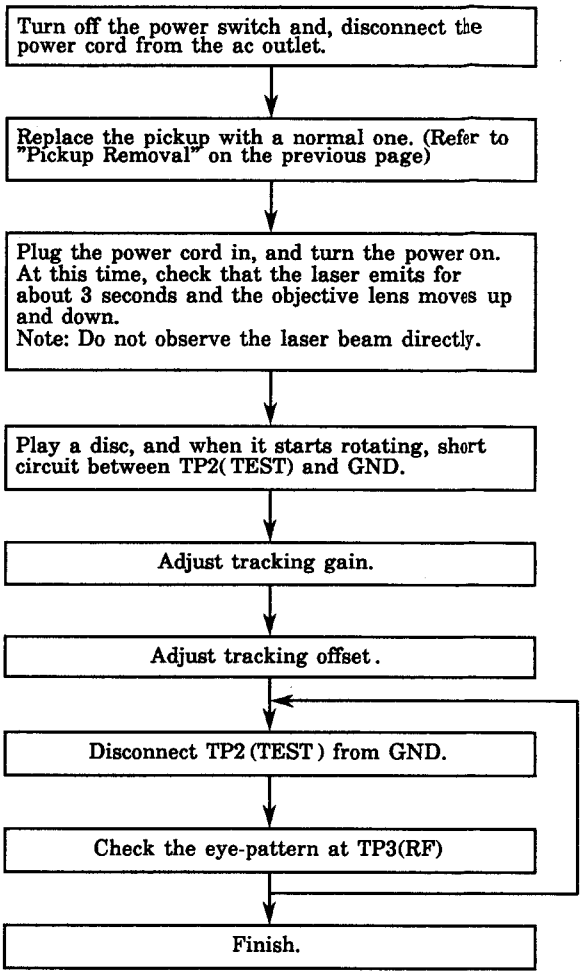
(3) Semi-fixed resistor on the APC PC board

The semi-fixed resistor on the APC printed circuit board which is attached to the pickup is used to adjust the laser power. Since this adjustment should be performed to match the characteristics of the whole optical block, do not touch the semi-fixed resistor.

If the laser power is lower than the specified value, the laser diode is almost worn out, and the laser pickup should be replaced.

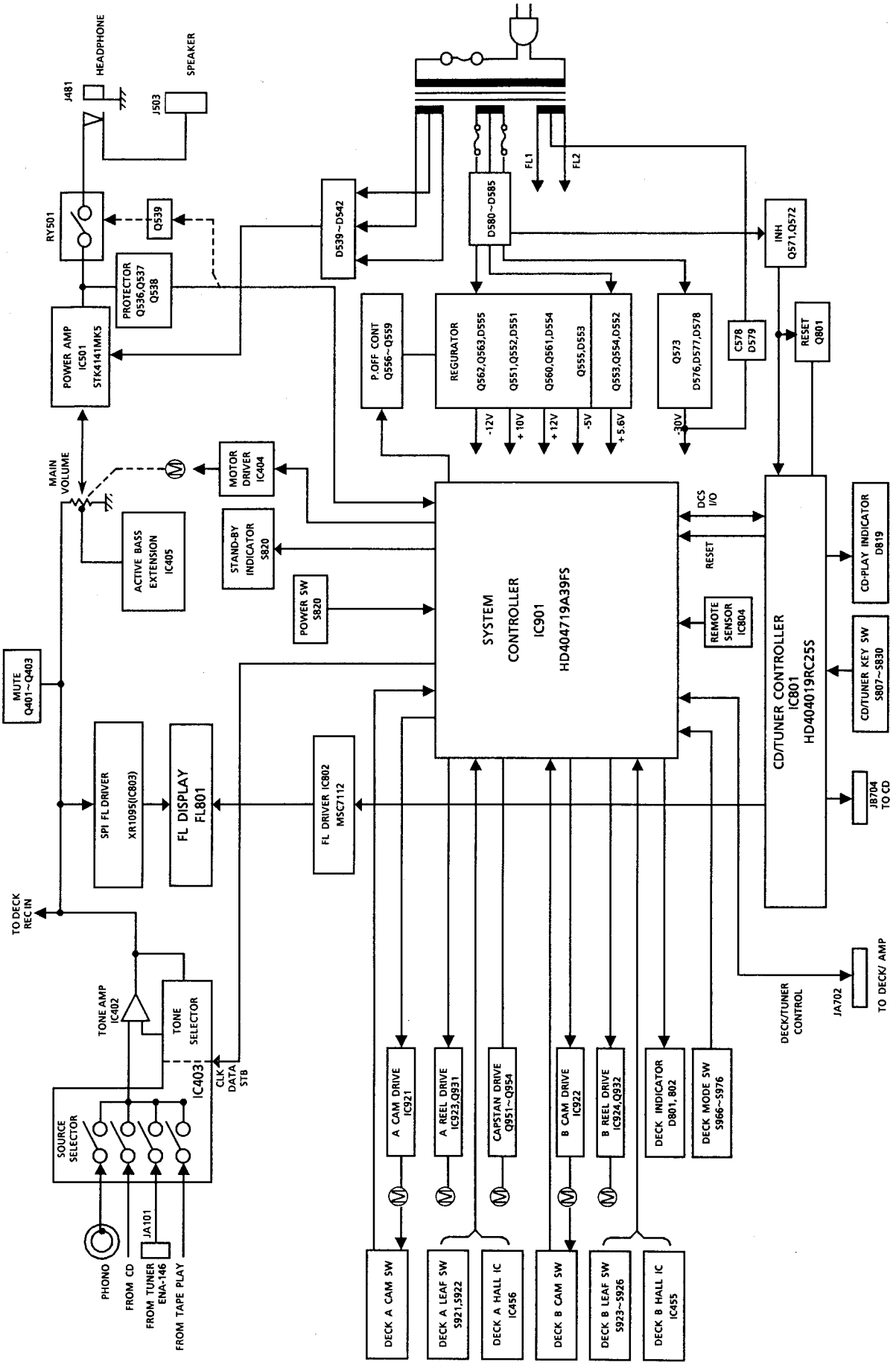
If the semi-fixed resistor is adjusted while the pickup is functioning normally, the laser pickup may be damaged due to excessive current.

Replacement of Laser Pickup


Turn off the power switch and, disconnect the power cord from the ac outlet.
Replace the pickup with a normal one. (Refer to "Pickup Removal" on the previous page)
Plug the power cord in, and turn the power on. At this time, check that the laser emits for about 3 seconds and the objective lens moves up and down.
Note: Do not observe the laser beam directly.
Play a disc, and when it starts rotating, short circuit between TP2(TEST) and GND.
Adjust tracking gain.
Adjust tracking offset.
Disconnect TP2 (TEST) from GND.
Check the eye-pattern at TP3(RF)
Finish.

Note: Since one adjustment may affect other settings, repeat these adjustments a few times.

Block Diagram



PARTS LIST

Note : All printed circuit boards and its assemblies are not available as service parts.

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General Exploded View and Parts List

■ Parts List

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	1	EFP-CAE48BKE (S)	FRONT PANEL ASSY	1		
	1-1	E102762-001SS	FRONT PANEL	1		
	1-2	E308718-001SS	WINDOW SCREEN	1		
	1-3	E406404-002	REMOTE PLATE	1		
	1-4	E69777-003	REFLECTION PLATE	2		
	1-5	E406971-221	JVC MARK	3		
	2	E102798-002SS	CASSATTE HOLDER	1	A MECHA	
	3	E308728-001SS	CASSETTE LENS	1	A MECHA	
	4	E406971-221	JVC MARK	1	A MECHA	
	5	E102800-002SS	CASS HOLDER	1	B MECHA	
	6	E308730-001SS	CASSETTE LENS	1	B MECHA	
	7	E406713-001	CASSETTE SPRING	4		
	8	E306649-003SS	VOLUME KNOB	1		
	9	E308720-001SS	FITTING	1		
	10	SDSG3008M	SCREW	11		
	11	E102358-332SS	TRAY	1		
	12	SBSF3008M	SCREW	3		
	13	E407098-001	SPECIAL SCREW	2		
	14	E407835-001SS	INDICATOR LENS	1		
	15	E102764-002SS	PUSH BUTTON	1		
	16	E208000-003SS	PUSH BUTTON	1		
	17	E102766-002SS	PUSH BUTTON	1		
	18	E208002-002SS	PUSH BUTTON	1		
	19	EWR621K-43TTJ2	FLAT WIRE	1	FW704	
	20	EWR640K-25TTJ2	FLAT WIRE	1	FW702	
	21	SDSF2608Z	SCREW	18		
	22	E304434-005	DAMPER ASSY	2		
	23	E308752-002SS	EJECT BUTTON	1	A MECHA	
	24	E308753-002SS	EJECT BUTTON	1	B MECHA	
	25	E407840-002SS	PUSH PLATE	1	A MECHA	
	26	E407841-002SS	PUSH PLATE	1	B MECHA	
	27	E308725-002SS	EJECT GUIDE	1		
	28	E102770-003SS	PUSH BUTTON ASSY	1		
	29	E407869-001SS	HOLDER SPRING	1	A MECHA	
	30	E407870-001SS	HOLDER SPRING	1	B MECHA	
	31	E208011-001SS	HOLDER BRACKET	1		
	32	EWT021-042	TERMINAL WIRE ASSY	1	JW001	
	33	GBSG3008CC	SCREW	17		
	34	E306805-098	SPACER	1		
	35	E308726-001SS	EJECT LEVER	1	A MECHA	
	36	E406669-331SS	EJECT SPRING	1	A MECHA	
	37	E406670-331SS	EJECT SPRING	1	B MECHA	
	38	E308727-001SS	EJECT LEVER	1	B MECHA	
	39	------	CASSETTE MECHANISM ASSY	1	SEE PAGE 2-9	
	40	SBSF3010C	SCREW	4		
	41	SBST3008C	SCREW	4		
	42	E26470-010	METAL COVER	1		
	43	E102774-001SS	CHASSIS BASE	1		
	44	E47227-028	FOOT	2	FOR REAR	
	45	SBSG3010Z	SCREW	2	FOR FOOT	
	46	E408039-001SS	BRACKET	1		
	47	E306221-003SS	SIDE BRACKET	1	LEFT	
⚠	48	QMF51E2-R80SBS	FUSE	1	F002 (T0.8A/250V)	EF
⚠		QMF51E2-R80SBS	FUSE	1	F002 (T0.8A/250V)	EN
⚠		QMF51E2-R80SBS	FUSE	1	F002 (T0.8A/250V)	G

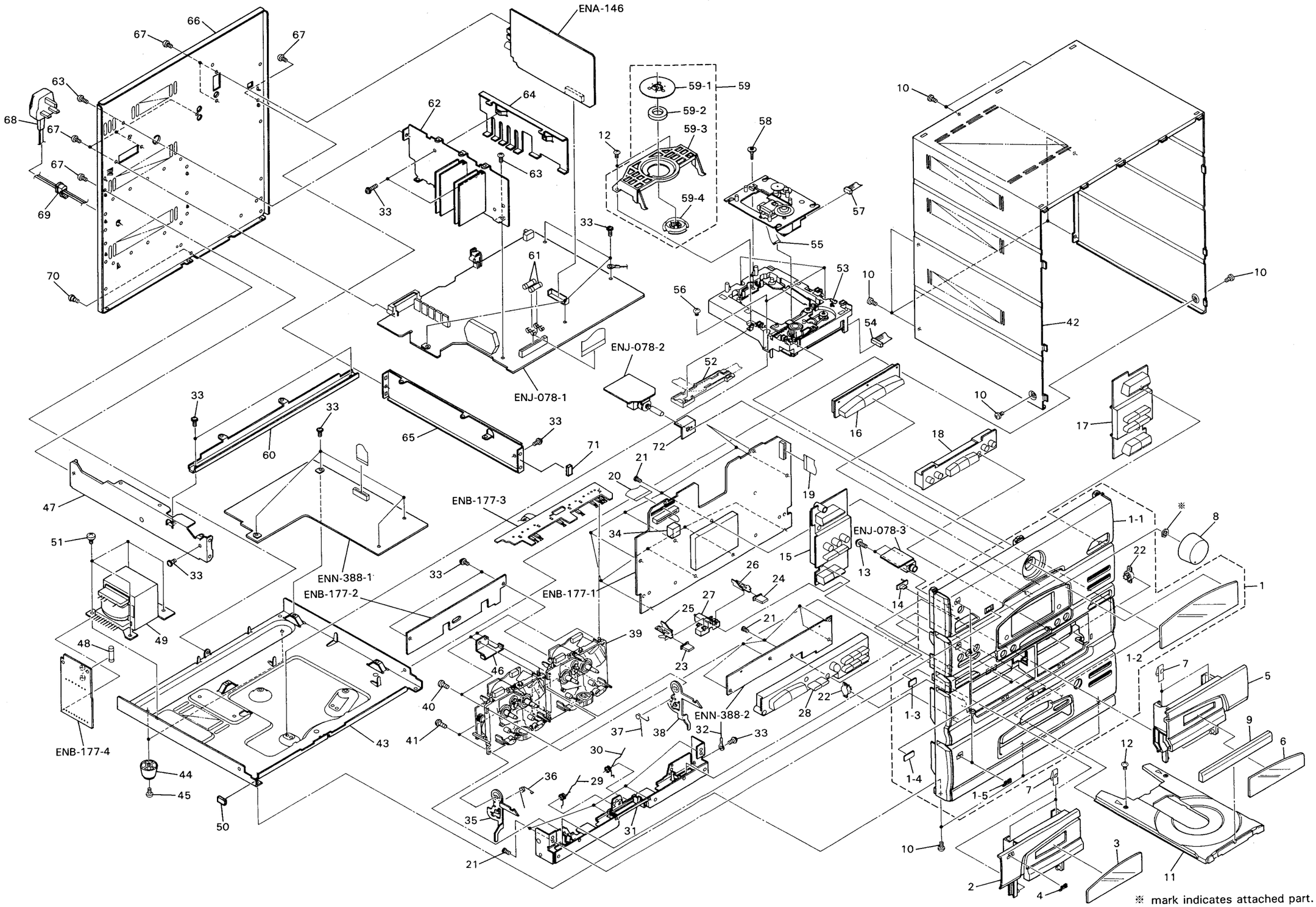
⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
⚠		QMF51E2-R80SBS	FUSE	1	F002 (T0.8A/250V)	GI
⚠		QMF51E2-R80SBS	FUSE	1	F002 (T0.8A/250V)	VX
⚠		QMF51E2-R80SBS	FUSE	1	F002 (T0.8A/250V)	BS
⚠	49	ETP1070-33EAJ	POWER TRANSFORMER	1	T001	EF
⚠		ETP1070-33EAJ	POWER TRANSFORMER	1	T001	EN
⚠		ETP1070-33EAJ	POWER TRANSFORMER	1	T001	G
⚠		ETP1070-33EAJ	POWER TRANSFORMER	1	T001	GI
⚠		ETP1070-33EAJ	POWER TRANSFORMER	1	T001	VX
⚠		ETP1070-33EAJBS	POWER TRANSFORMER	1	T001	BS
	50	E306805-101	SPACER	1		
	51	E65389-002	SPECIAL SCREW	4	FOR POWER TRANSFORMRE	
	52	E308181-001	FFC HOLDER	1		
	53	------	CD MECHANISM ASSY	1	SEE PAGE 2-7	
	54	EWS265-B410	SOCKET WIRE ASSY	1	5PIN	
	55	EWPZ02-001	FFC CABLE	1	15PIN	
	56	SBST3006Z	SCREW	3		
	57	EWS266-B412	SOCKET WIRE ASSY	1	6PIN	
	58	E406293-001	SPECIAL SCREW	1		
	59	E306837-005	CLAMPER BASE ASSY	1		
	59-1	E306836-003	YOKE PLATE	1		
	59-2	E74897-002	MAGNET	1		
	59-3	E26756-002	CLAMPER BASE	1		
	59-4	E306835-001	CLAMPER	1		
	60	E306281-001SS	BRACKET	1		
⚠	61	QMF51E2-1R25	FUSE	2	F101,F102 (T1.25A/250V)	EF
⚠		QMF51E2-1R25	FUSE	2	F101,F102 (T1.25A/250V)	EN
⚠		QMF51E2-1R25	FUSE	2	F101,F102 (T1.25A/250V)	G
⚠		QMF51E2-1R25	FUSE	2	F101,F102 (T1.25A/250V)	GI
⚠		QMF51E2-1R25	FUSE	2	F101,F102 (T1.25A/250V)	VX
⚠		QMF51E2-1R2J1BS	FUSE	2	F101,F102 (T1.25A/250V)	BS
	62	E306770-003SS	HEAT SINK	1		
	63	SBSG3012M	SCREW	2		
	64	E306705-002SS	LEAF SPRING	1		
	65	E306222-002SS	SIDE BRACKET	1	RIGHT	
	66	E102775-001SS	REAR PANEL	1		EF
		E102775-001SS	REAR PANEL	1		EN
		E102775-001SS	REAR PANEL	1		G
		E102775-001SS	REAR PANEL	1		GI
		E102775-002SS	REAR PANEL	1		BS
		E102775-003SS	REAR PANEL	1		VX
	67	E73273-003	SPECIAL SCREW	10		
⚠	68	QMP3900-200	POWER CORD	1		EF
⚠		QMP3900-200	POWER CORD	1		EN
⚠		QMP3900-200	POWER CORD	1		G
⚠		QMP3900-200	POWER CORD	1		GI
⚠		QMP3900-200	POWER CORD	1		VX
⚠		QMP5530-0085BS	POWER CORD	1		BS
⚠	69	QHS3876-162	CORD STOPPER	1		EF
⚠		QHS3876-162	CORD STOPPER	1		EN
⚠		QHS3876-162	CORD STOPPER	1		G
⚠		QHS3876-162	CORD STOPPER	1		GI
⚠		QHS3876-162	CORD STOPPER	1		VX
⚠		QHS3876-162BS	CORD STOPPER	1		BS
	70	E73562-003	SPECIAL SCREW	1		
	71	E306805-100	SPACER	1		

⚠	Item	Part Number	Part Name	Q'ty	Description	Areas
	72	E408008-001SS	SHIELD BKT	1		BS
	—	E61029-005	NUMBER LABEL	1		
	—	E70891-001	CLASS 1 LABEL	1		
	—	E406507-001	CAUTION LABEL	1		
	—	E70027-001	LABEL	1		EN
	—	QZL1031-101	LABEL	1		EF

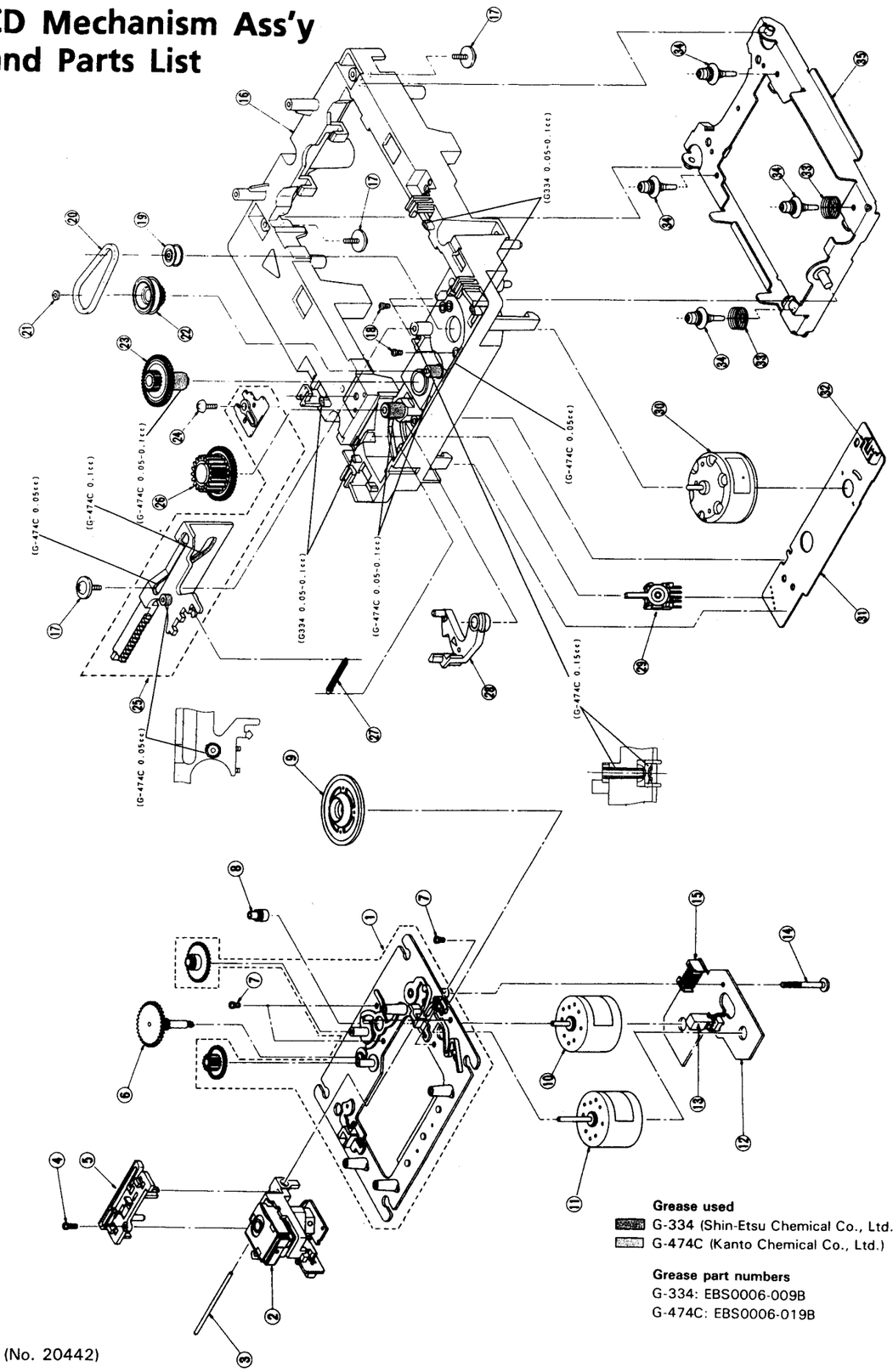
⚠ SAFETY PARTS

The Marks for Designated Areas

EN ..... Scandinavia EF ..... Continental Europe BS ..... the U.K.
G ..... Germany GI ..... Itary VX ..... East Europe
No mark indicates all areas.


ENA-146
ENJ-078-2
ENJ-078-1
ENB-177-3
ENN-388-1
ENB-177-2
ENB-177-1
ENJ-078-3
ENN-388-2
ENB-177-4
※ mark indicates attached part.

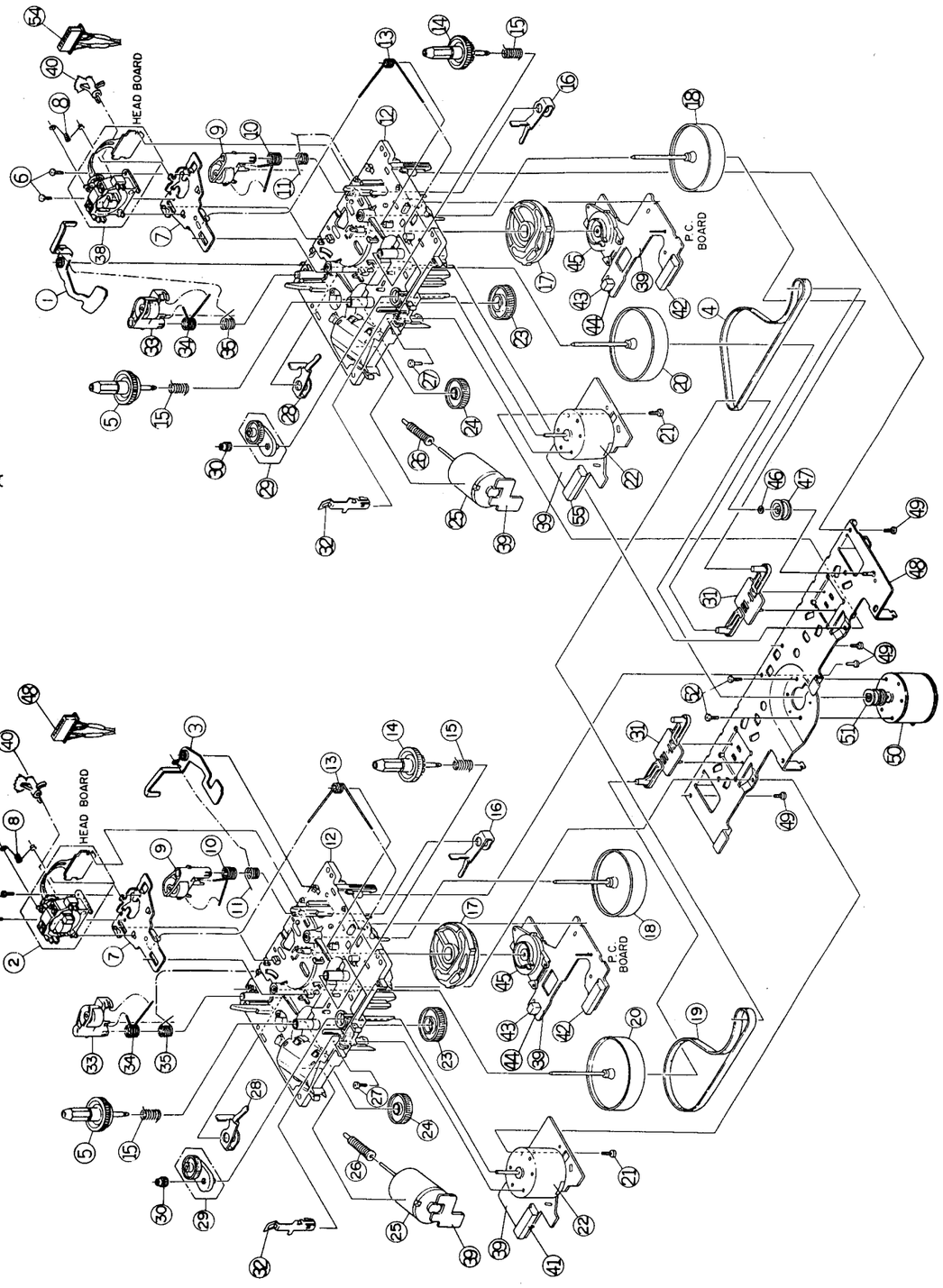
CD Mechanism Ass'y and Parts List



■ Parts List (CD Mechanism Ass'y)

Item	Part Number	Part Name	Q'ty	Description	Area
1	EPB-002A	MECHANISM BASE ASSY	1		
2	OPTIMA-6S	PICK UP ASS'Y	1		
3	E406777-001	SHAFT	1		
4	SDSF2006Z	SCREW	1		
5	E307746-001	CD RACK	1		
6	EPB-003A	MECHANISM BASE ASSY	1		
7	SDSP2003N	SCREW	4		
8	E406750-001	PINION GEAR	1		
9	EPB-001C	TURNTABLE	1		
10	E406784-001	DC MOTOR	1		
11	E406783-001	DC MOTOR	1		
12	EMW10190-001(S)	CIRCUIT BOARD	1		
13	ESB1100-005	LEAF SWITCH	1		
14	E75832-001	SPECIAL SCREW	1		
15	EMV5109-006B	PLUG ASSY	1	6PIN	
16	E102357-221	LOADING BASE	1		
17	E65923-003	SCREW	3		
18	SPSK2640Z	SCREW	2		
19	E75984-001	MOTOR PULLEY	1		
20	E75950-002	BELT	1		
21	E72024-001	SPEED NUT	1		
22	E75985-001	GEAR	1		
23	E75986-002	GEAR	1		
24	SBSF3008Z	SCREW	1		
25	E307252-221	CAM - PLATE	1		
26	E75987-001	REEL GEAR	1		
27	E75989-001	SPRING	1		
28	E307162-221	LEVER	1		
29	ESS1200-002	SLIDE SWITCH	1		
30	RF-500TB-12560	MOTOR	1		
31	EMW10255-002(S)	CIRCUIT BOARD	1		
32	EMV5109-005B	PLUG ASSY	1	5PIN	
33	E406871-001	SPRING	2		
34	E406294-002	INSULATOR	4		
35	E307179-221	ELEVATOR BASE ASSY	1		

Cassette Mechanism Ass'y and Parts List



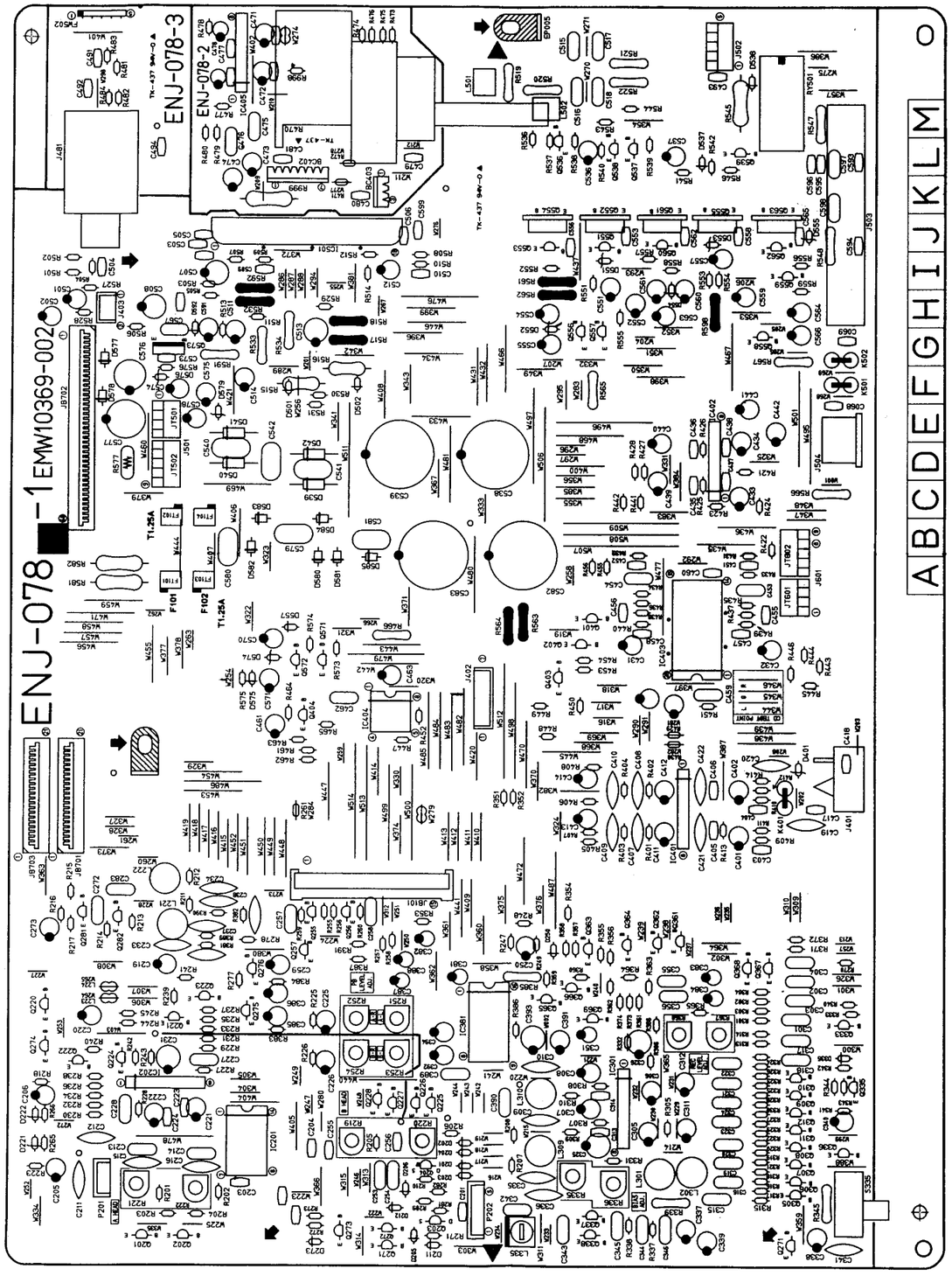
■ Parts List (Cassette Mechanism Ass'y)

Item	Part Number	Part Name	Q'ty	Description	Areas
1	VKL6954-007	SAFETY LEVER	1	A MECHA	
2	VKS3551-#0C	HEAD BLOCK	1	B MECHA	
3	VKL6943-007	SAFETY LEVER	1	B MECHA	
4	VKB3001-050	CAPSTAN BELT	1	A MECHA	
5	VKS5321-00D	TAKE-UP REEL	2		
6	SDST2004Z	SCREW	4		
7	VKL6942-00E	HEAD BASE	2		
8	VKW4994-001	HEAD SPRING	2		
9	VKP4221-00C	PINCH ROLLER	2	LEFT	
10	VKW4982-001	PINCHROLLER SPRING	2	LEFT	
11	VKW4933-005	TORSION SPRING	2	LEFT	
12	VKS1112-#0I	MECHA CHASSIS	2		
13	VKW4930-002	SPRING	2		
14	VKS3480-004	REEL	2		
15	VKW4928-003	SPRING	4		
16	VKL6940-002	PINCHROLLER LEVER	2	LEFT	
17	VKS2209-006	CONTROL CAM	2		
18	VKF3186-00C	FLYWHEEL	2	LEFT	
19	VKB3001-048	CAPSTAN BELT	1	B MECHA	
20	VKF3184-00C	FLYWHEEL	2	RIGHT	
21	SDSF2608Z	SCREW	2		
22	MMN-6F4RA38	DC MOTOR	2	FOR REEL	
23	VKS5331-003	ACUTUATER GEAR	2		
24	VKS5330-004	DRIVE GEAR	2		
25	MXN-13FB12F	DC MOTOR	2	FOR ACT.	
26	VKS5329-002	WORM GEAR	2		
27	SDSP2605Z	SCREW	2		
28	VKL6939-002	PINCHROLLER LEVER	2	RIGHT	
29	VKS5325-00F	FR ARM ASSY	2		
30	VKS5328-002	REEL GEAR	2		
31	VKS5327-004	THRUST PLATE	2		
32	VKY4628-002	PACK SPRING	2		
33	VKP4219-00C	PINCH ROLLER	2	RIGHT	
34	VKW4981-001	TORSION SPRING	2	RIGHT	
35	VKW4932-005	TORSION SPRING	2	RIGHT	
38	VKS3550-#0C	HEAD BLOCK	1	A MECHA	
39	VMW2345-002	PRINTED BOARD	1		
40	VKS3485-002	TIMING GEAR	2		
41	VMC0249-R08N	CONNECT TERMINAL	1		
42	VMC0249-R07N	CONNECT TERMINAL	1		
43	DN6851A	I.C.	1		
44	VKS3487-002	IC HOLDER	1		
45	VKS3587-00A	CAM SWITCH	1		
46	WDL163525-4	WASHER	1		
47	VKR4631-002	IDLER PULLEY	1		
48	VKM3419-00E	FLYWHEEL BRACKET	1		
49	SDSF2605Z	SCREW	4		
50	MMI-6H2LWSK	DC MOTOR	1		
51	VKR4632-003	MOTOR PULLEY	1		
52	SPSP2603Z	SCREW	2		
53	VDM007P-024N	WIRE ASSY	1	B MECHA	
54	VDM003P-024N	WIRE ASSY	1	A MECHA	
55	VMC0249-R04N	CONNECT TERMINAL	1		

Printed Circuit Board Ass'y and Parts List

■ENJ-078 □ Power AMP. PC Board Ass'y

Note : ENJ-078 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Version	Designated Areas
ENJ-078 C	EN EF	Scandinavia Continental Europe
ENJ-078 D	BS	the U.K.
ENJ-078 E	G GI	Germany Italy
ENJ-078 F	VX	East Europe

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q201	DTC144ES	DIGITAL TRAROHM	
	Q202	DTC144ES	DIGITAL TRAROHM	
	Q203	2SK373(O,Y)	F.E.T. TOSHIBA	
	Q204	2SK373(O,Y)	F.E.T. TOSHIBA	
	Q220	DTC144ES	DIGITAL TRAROHM	
	Q221	2SK301(Q,R)	F.E.T.	
	Q222	2SK301(Q,R)	F.E.T.	
	Q223	2SK301(Q,R)	F.E.T.	
	Q224	2SK301(Q,R)	F.E.T.	
	Q225	DTC114YS	DIGITAL TRAROHM	
	Q226	DTC114YS	DIGITAL TRAROHM	
	Q227	DTC114YS	DIGITAL TRAROHM	
	Q228	DTC114YS	DIGITAL TRAROHM	
	Q255	2SD2144S(VW)	SI.TRANSISTROHM	
	Q256	2SD2144S(VW)	SI.TRANSISTROHM	
	Q257	DTA144ES	DIGITAL TRAROHM	
	Q271	DTC144ES	DIGITAL TRAROHM	
	Q272	DTA144ES	DIGITAL TRAROHM	
	Q273	DTA144ES	DIGITAL TRAROHM	
	Q274	DTC144ES	DIGITAL TRAROHM	
	Q275	2SD2144S(VW)	SI.TRANSISTROHM	
	Q276	2SD2144S(VW)	SI.TRANSISTROHM	
	Q277	DTC144ES	DIGITAL TRAROHM	BS
	Q277	DTC144ES	DIGITAL TRAROHM	EF
	Q277	DTC144ES	DIGITAL TRAROHM	EN
	Q277	DTC144ES	DIGITAL TRAROHM	G
	Q277	DTC144ES	DIGITAL TRAROHM	GI
	Q277	DTC144ES	DIGITAL TRAROHM	VX
	Q281	2SC1685(Q,R)	SI.TRANSISTMATSUSHITA	
	Q282	2SC1685(Q,R)	SI.TRANSISTMATSUSHITA	
	Q305	DTC144TS	DIGITAL TRAROHM	
	Q306	DTC144TS	DIGITAL TRAROHM	
	Q307	DTC144TS	DIGITAL TRAROHM	
	Q308	DTC144TS	DIGITAL TRAROHM	
	Q309	DTC144TS	DIGITAL TRAROHM	
	Q310	DTC144TS	DIGITAL TRAROHM	
	Q311	DTC144TS	DIGITAL TRAROHM	
	Q312	DTC144TS	DIGITAL TRAROHM	
	Q333	DTC144ES	DIGITAL TRAROHM	
	Q335	2SC945A(P,Q)	SI.TRANSIST	
	Q336	2SC945A(P,Q)	SI.TRANSIST	
	Q337	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q338	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q361	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q362	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q363	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q364	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q365	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q366	2SC1740S(R,S)	SI.TRANSISTROHM	
	Q367	2SD2144S(VW)	SI.TRANSISTROHM	
	Q368	2SD2144S(VW)	SI.TRANSISTROHM	
	Q369	DTC144ES	DIGITAL TRAROHM	
	Q401	2SD2144S(VW)	SI.TRANSISTROHM	
	Q402	2SD2144S(VW)	SI.TRANSISTROHM	
	Q403	DTA144ES	DIGITAL TRAROHM	
	Q404	2SC1685(Q,R)	SI.TRANSISTMATSUSHITA	
	Q536	2SC1685(Q,R)	SI.TRANSISTMATSUSHITA	
	Q537	2SC1685(Q,R)	SI.TRANSISTMATSUSHITA	
	Q538	2SA933S(R,S)	SI.TRANSIST	
	Q539	2SC1685(Q,R)	SI.TRANSISTMATSUSHITA	
	Q551	2SC1685(Q,R)	SI.TRANSISTMATSUSHITA	
	Q552	2SD2061(F,G)	SI.TRANSISTROHM	
	Q553	2SC1685(Q,R)	SI.TRANSISTMATSUSHITA	
	Q554	2SD2061(F,G)	SI.TRANSISTROHM	
	Q555	2SB1187(E,F)	SI.TRANSIST	
	Q556	DTC144ES	DIGITAL TRAROHM	
	Q557	DTA144ES	DIGITAL TRAROHM	
	Q558	DTA144ES	DIGITAL TRAROHM	
	Q559	DTC144ES	DIGITAL TRAROHM	
	Q560	2SC1685(Q,R)	SI.TRANSISTMATSUSHITA	
	Q561	2SD2061(F,G)	SI.TRANSISTROHM	
	Q562	2SA733A(P,Q)	SILICON	
	Q563	2SB1187(E,F)	SI.TRANSIST	
	Q571	DTC114YS	DIGITAL TRAROHM	
	Q572	DTC114YS	DIGITAL TRAROHM	BS

⚠ :SAFETY PARTS

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q572	DTC114YS	DIGITAL TRAROHM	EF
	Q572	DTC114YS	DIGITAL TRAROHM	EN
	Q572	DTC114YS	DIGITAL TRAROHM	G
	Q572	DTC114YS	DIGITAL TRAROHM	GI
	Q572	DTC114YS	DIGITAL TRAROHM	VX
	Q573	2SB1357(E,F)	SI.TRANSISTROHM	

⚠ :SAFETY PARTS

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC201	BU4066B	I.C(DIGI-MOROHM	
	IC202	UPC1228HA	I.C(MONO-ANNEC	
	IC301	BA15218N	I.C(MONO-ANROHM	
	IC381	HA12136A	I.C(MONO-ANHITACHI	
	IC401	VC4580LD	I.C(MONO-ANDAINICHI	
	IC402	BA15218N	I.C(MONO-ANROHM	
	IC403	TC9164N	I.C(DIGI-MOTOSHIBA	
	IC404	LB1639-CV	I.C(DIGI-OTSANYO	
	IC405	BA15218N	I.C(MONO-ANROHM	
	IC501	STK4141MK5	I.C(HYBRID)SANYO	

⚠ :SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D201	1SS119	SI.DIODE HITACHI	
	D202	1SS119	SI.DIODE HITACHI	
	D203	1SS119	SI.DIODE HITACHI	
	D204	1SS119	SI.DIODE HITACHI	
	D205	1SS119	SI.DIODE HITACHI	
	D206	1SS119	SI.DIODE HITACHI	
	D211	1SS119	SI.DIODE HITACHI	
	D212	1SS119	SI.DIODE HITACHI	
	D250	1SS119	SI.DIODE HITACHI	
	D273	1SS119	SI.DIODE HITACHI	
	D335	1SS119	SI.DIODE HITACHI	
	D401	MTZ5.6JC	ZENER DIODEROHM	
	D501	1SS119	SI.DIODE HITACHI	
	D502	1SS119	SI.DIODE HITACHI	
	D537	1SS119	SI.DIODE HITACHI	
	D538	1SS119	SI.DIODE HITACHI	
	D539	10E2-FD	DIODE NIHONINTER	
	D540	10E2-FD	DIODE NIHONINTER	
	D541	10E2-FD	DIODE NIHONINTER	
	D542	10E2-FD	DIODE NIHONINTER	
	D551	MTZ11JC	ZENER DIODEROHM	
	D552	MTZ6.8JC	ZENER DIODEROHM	
	D553	MTZ5.6JC	ZENER DIODEROHM	
	D554	MTZ13JC	ZENER DIODEROHM	
	D555	MTZ13JC	ZENER DIODEROHM	
	D557	1SS119	SI.DIODE HITACHI	
	D574	MTZ5.1JC	ZENER DIODEROHM	
	D575	1SS119	SI.DIODE HITACHI	
	D576	MTZ30JC	ZENER DIODEROHM	
	D577	1SR139-200	SI.DIODE ROHM	
	D578	1SR139-200	SI.DIODE ROHM	
	D579	MTZ5.1JC	ZENER DIODEROHM	
	D580	1SR139-200	SI.DIODE ROHM	
	D581	1SR139-200	SI.DIODE ROHM	
	D582	1SR139-200	SI.DIODE ROHM	
	D583	1SR139-200	SI.DIODE ROHM	
	D584	1SR139-200	SI.DIODE ROHM	
	D585	1SR139-200	SI.DIODE ROHM	
	D592	1SS119	SI.DIODE HITACHI	

⚠ :SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C068	QCBB1HK-471	470PF 50V CER.CAPACI	TO G
	C068	QCBB1HK-471	470PF 50V CER.CAPACI	TO GI
	C069	QCVB1CM-103	0.01MF 16V CER.CAPACI	TO G
	C069	QCVB1CM-103	0.01MF 16V CER.CAPACI	TO GI
	C201	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO G
	C201	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO GI
	C203	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO G
	C203	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO GI
	C204	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO G
	C204	QCHB1EZ-223	0.022MF 25V CER.CAPACI	TO GI
	C205	QET41AM-476	47MF 10V ELECTRO	
	C206	QET41AM-476	47MF 10V ELECTRO	
	C211	QCS21HJ-331	330PF 50V CER.CAPACI	TO
	C212	QCS21HJ-331	330PF 50V CER.CAPACI	TO
	C213	QFLB1HJ-122	1200PF 50V MYLAR CAPA	CI
	C214	QFLB1HJ-122	1200PF 50V MYLAR CAPA	CI
	C215	QCS21HJ-331	330PF 50V CER.CAPACI	TO
	C216	QCS21HJ-331	330PF 50V CER.CAPACI	TO
	C219	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C220	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C221	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C222	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C223	QCBB1HK-471	470PF 50V CER.CAPACI	TO
	C224	QCBB1HK-471	470PF 50V CER.CAPACI	TO
	C225	QET41AM-107	100MF 10V AL E.CAPAC	IT
	C226	QET41AM-107	100MF 10V AL E.CAPAC	IT
	C227	QFLB1HJ-822	8200PF 50V MYLAR CAPA	CI
	C228	QFLB1HJ-822	8200PF 50V MYLAR CAPA	CI
	C231	QET41CM-107	100MF 16V AL E.CAPAC	IT
	C233	QCS11HJ-101	100PF 50V CER.CAPACI	TO
	C234	QCS11HJ-101	100PF 50V CER.CAPACI	TO
	C237	QCS11HJ-471	470PF 50V CER.CAPACI	TO
	C238	QCS11HJ-471	470PF 50V CER.CAPACI	TO
	C240	QCF11HP-473	0.047MF 50V CER.CAPACI	TO G
	C240	QCF11HP-473	0.047MF 50V CER.CAPACI	TO GI
	C241	QCF11HP-473	0.047MF 50V CER.CAPACI	TO G
	C241	QCF11HP-473	0.047MF 50V CER.CAPACI	TO GI
	C242	QCF11HP-473	0.047MF 50V CER.CAPACI	TO G
	C242	QCF11HP-473	0.047MF 50V CER.CAPACI	TO GI
	C243	QCF11HP-473	0.047MF 50V CER.CAPACI	TO G
	C243	QCF11HP-473	0.047MF 50V CER.CAPACI	TO GI
	C250	QET41AM-476	47MF 10V ELECTRO	
	C253	QFLB1HJ-152	1500PF 50V MYLAR CAPA	CI
	C254	QFLB1HJ-152	1500PF 50V MYLAR CAPA	CI
	C255	QCBB1HK-331	330PF 50V CER.CAPACI	TO
	C256	QCBB1HK-331	330PF 50V CER.CAPACI	TO
	C257	QFLB1HJ-182	1800PF 50V MYLAR CAPA	CI G
	C257	QFLB1HJ-182	1800PF 50V MYLAR CAPA	CI GI
	C258	QFLB1HJ-182	1800PF 50V MYLAR CAPA	CI G
	C258	QFLB1HJ-182	1800PF 50V MYLAR CAPA	CI GI
	C259	QETB1EM-226	22MF 25V E.CAPACITO	R
	C272	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	CI
	C273	QET41HM-105	1MF 50V E.CAPACITO	R
	C283	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	CI
	C301	QFLB1HJ-104	0.1MF 50V MYLAR CAPA	CI
	C302	QFLB1HJ-104	0.1MF 50V MYLAR CAPA	CI
	C303	QFLB1HJ-152	1500PF 50V MYLAR CAPA	CI
	C304	QFLB1HJ-152	1500PF 50V MYLAR CAPA	CI
	C307	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C308	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C309	QCS11HJ-101	100PF 50V CER.CAPACI	TO
	C310	QCS11HJ-101	100PF 50V CER.CAPACI	TO
	C313	QCS11HJ-470	47PF 50V CER.CAPACI	TO
	C314	QCS11HJ-470	47PF 50V CER.CAPACI	TO
	C315	QFLB1HJ-123	0.012MF 50V MYLAR CAPA	CI
	C316	QFLB1HJ-123	0.012MF 50V MYLAR CAPA	CI
	C317	QFLB1HJ-682	6800PF 50V MYLAR CAPA	CI
	C318	QFLB1HJ-682	6800PF 50V MYLAR CAPA	CI
	C319	QFLB1HJ-153	0.015MF 50V MYLAR CAPA	CI
	C320	QFLB1HJ-153	0.015MF 50V MYLAR CAPA	CI
	C321	QFLB1HJ-102	1000PF 50V MYLAR CAPA	CI
	C322	QFLB1HJ-102	1000PF 50V MYLAR CAPA	CI
	C323	QFLB1HJ-103	0.01MF 50V MYLAR CAPA	CI
	C324	QFLB1HJ-103	0.01MF 50V MYLAR CAPA	CI
	C325	QET41CM-107	100MF 16V AL E.CAPAC	IT
	C326	QET41CM-107	100MF 16V AL E.CAPAC	IT
	C335	QCS11HJ-101	100PF 50V CER.CAPACI	TO
	C336	QCS11HJ-101	100PF 50V CER.CAPACI	TO
	C337	QET41EM-106	10MF 25V AL E.CAPAC	IT
	C338	QET41CM-476	47MF 16V AL E.CAPAC	IT
	C339	QET41HM-105	1MF 50V E.CAPACITO	R
	C340	QET41HM-105	1MF 50V E.CAPACITO	R
	C341	QCS21HJ-561	560PF 50V CER.CAPACI	TO
	C342	QFPB1HJ-822MM	8200PF 50V POLY	
	C343	QFLB1HJ-123	0.012MF 50V MYLAR CAPA	CI
	C344	QFLB1HJ-222	2200PF 50V MYLAR CAPA	CI
	C345	QFLB1HJ-222	2200PF 50V MYLAR CAPA	CI
	C346	QFLB1HJ-682	6800PF 50V MYLAR CAPA	CI
	C350	QCF11HP-473	0.047MF 50V CER.CAPACI	TO G
	C350	QCF11HP-473	0.047MF 50V CER.CAPACI	TO GI
	C351	QET41EM-106	10MF 25V AL E.CAPAC	IT
	C355	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	CI
	C356	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	CI
	C381	QET41HM-105	1MF 50V E.CAPACITO	R
	C382	QET41HM-105	1MF 50V E.CAPACITO	R

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CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C383	QET41HM-475	4.7MF 50V ELECTRO	
	C384	QET41HM-475	4.7MF 50V ELECTRO	
	C385	QET41HM-105	1MF 50V E.CAPACITO	R
	C386	QET41HM-105	1MF 50V E.CAPACITO	R
	C387	QET41HM-475	4.7MF 50V ELECTRO	
	C388	QET41HM-475	4.7MF 50V ELECTRO	
	C389	QFVB1HJ-224	0.22MF 50V THIN FILM	CA
	C390	QFVB1HJ-224	0.22MF 50V THIN FILM	CA
	C391	QET41HM-475	4.7MF 50V ELECTRO	
	C392	QET41HM-475	4.7MF 50V ELECTRO	
	C393	QET41CM-107	100MF 16V AL E.CAPAC	IT
	C394	QET41HM-475	4.7MF 50V ELECTRO	
	C401	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C402	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C403	QCBB1HK-101	100PF 50V CER.CAPACI	TO BS
	C403	QCBB1HK-101	100PF 50V CER.CAPACI	TO EF
	C403	QCBB1HK-101	100PF 50V CER.CAPACI	TO EN
	C403	QCBB1HK-221	220PF 50V CER.CAPACI	TO G
	C403	QCBB1HK-221	220PF 50V CER.CAPACI	TO GI
	C403	QCBB1HK-101	100PF 50V CER.CAPACI	TO VX
	C404	QCBB1HK-101	100PF 50V CER.CAPACI	TO BS
	C404	QCBB1HK-101	100PF 50V CER.CAPACI	TO EF
	C404	QCBB1HK-101	100PF 50V CER.CAPACI	TO EN
	C404	QCBB1HK-221	220PF 50V CER.CAPACI	TO G
	C404	QCBB1HK-221	220PF 50V CER.CAPACI	TO GI
	C404	QCBB1HK-101	100PF 50V CER.CAPACI	TO VX
	C405	QCBB1HK-101	100PF 50V CER.CAPACI	TO BS
	C405	QCBB1HK-101	100PF 50V CER.CAPACI	TO EF
	C405	QCBB1HK-101	100PF 50V CER.CAPACI	TO EN
	C405	QCBB1HK-271	270PF 50V CER.CAPACI	TO G
	C405	QCBB1HK-271	270PF 50V CER.CAPACI	TO GI
	C405	QCBB1HK-271	270PF 50V CER.CAPACI	TO VX
	C406	QCBB1HK-101	100PF 50V CER.CAPACI	TO BS
	C406	QCBB1HK-101	100PF 50V CER.CAPACI	TO EF
	C406	QCBB1HK-101	100PF 50V CER.CAPACI	TO EN
	C406	QCBB1HK-271	270PF 50V CER.CAPACI	TO G
	C406	QCBB1HK-271	270PF 50V CER.CAPACI	TO GI
	C406	QCBB1HK-271	270PF 50V CER.CAPACI	TO VX
	C407	QCY21HK-682	6800PF 50V CER.CAPACI	TO
	C408	QCY21HK-682	6800PF 50V CER.CAPACI	TO
	C409	QCY21HK-182	1800PF 50V CER.CAPACI	TO
	C410	QCY21HK-182	1800PF 50V CER.CAPACI	TO
	C411	QETB1EM-226	22MF 25V E.CAPACITO	R
	C412	QETB1EM-226	22MF 25V E.CAPACITO	R
	C413	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C414	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C417	QCBB1HK-221	220PF 50V CER.CAPACI	TO G
	C417	QCBB1HK-221	220PF 50V CER.CAPACI	TO GI
	C418	QCBB1HK-221	220PF 50V CER.CAPACI	TO G
	C418	QCBB1HK-221	220PF 50V CER.CAPACI	TO GI
	C419	QCF11HP-473	0.047MF 50V CER.CAPACI	TO
	C420	QCF11HP-473	0.047MF 50V CER.CAPACI	TO
	C421	QCF11HP-223	0.022MF 50V CER.CAPACI	TO G
	C421	QCF11HP-223	0.022MF 50V CER.CAPACI	TO GI
	C422	QCF11HP-223	0.022MF 50V CER.CAPACI	TO G
	C422	QCF11HP-223	0.022MF 50V CER.CAPACI	TO GI
	C431	QET41HM-475	4.7MF 50V ELECTRO	
	C432	QET41HM-475	4.7MF 50V ELECTRO	
	C433	QET41EM-106	10MF 25V AL E.CAPAC	IT
	C434	QET41EM-106	10MF 25V AL E.CAPAC	IT
	C435	QCSB1HJ-180	18PF 50V CER.CAPACI	TO
	C436	QCSB1HJ-180	18PF 50V CER.CAPACI	TO
	C437	QCS11HJ-470	47PF 50V CER.CAPACI	TO
	C438	QCS11HJ-470	47PF 50V CER.CAPACI	TO
	C439	QET41HM-475	4.7MF 50V ELECTRO	
	C440	QET41HM-475	4.7MF 50V ELECTRO	
	C441	QET41CM-476	47MF 16V AL E.CAPAC	IT
	C442	QET41CM-476	47MF 16V AL E.CAPAC	IT
	C451	QCGB1HK-102	1000PF 50V CER.CAPACI	TO
	C452	QCGB1HK-102	1000PF 50V CER.CAPACI	TO
	C453	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	CI
	C454	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	CI
	C455	QCXB1CM-332	3300PF 16V CER.CAPACI	TO
	C456	QCXB1CM-332	3300PF 16V CER.CAPACI	TO
	C457	QCBB1HK-681	680PF 50V C.CAPACITO	R
	C458	QCBB1HK-681	680PF 50V C.CAPACITO	R
	C459	QFLB1HJ-562	5600PF 50V MYLAR CAPA	CI
	C460	QCBB1HK-561	560PF 50V CER.CAPACI	TO
	C461	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C462	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	CI
	C463	QET41AM-476	47MF 10V ELECTRO	
	C471	QETB1HM-106	10MF 50V E.CAPACITO	R
	C472	QETB1HM-106	10MF 50V E.CAPACITO	R
	C473	QET41AM-476	47MF 10V ELECTRO	
	C474	QET41AM-476	47MF 10V ELECTRO	
	C475	QFV81HJ-224	0.22MF 50V THIN FILM	CA
	C476	QFV81HJ-224	0.22MF 50V THIN FILM	CA
	C477	QET41HM-474	0.47MF 50V AL E.CAPAC	IT
	C478	QET41HM-474	0.47MF 50V AL E.CAPAC	IT
	C479	QCBB1HK-471	470PF 50V CER.CAPACI	TO G
	C479	QCBB1HK-471	470PF 50V CER.CAPACI	TO GI
	C480	QCBB1HK-471	470PF 50V CER.CAPACI	TO G
	C480	QCBB1HK-471	470PF 50V CER.CAPACI	TO GI
	C481	QCVB1CM-103	0.01MF 16V CER.CAPACI	TO
	C491	QCBB1HK-471	470PF 50V CER.CAPACI	TO G

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CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C491	QCBB1HK-471	470PF	50V	CER.CAPACI	TO GI
	C492	QCBB1HK-471	470PF	50V	CER.CAPACI	TO G
	C492	QCBB1HK-471	470PF	50V	CER.CAPACI	TO GI
	C493	QCXB1CM-472	4700PF	16V	CER.CAPACI	TO G
	C493	QCXB1CM-472	4700PF	16V	CER.CAPACI	TO GI
	C494	QCGB1HK-102	1000PF	50V	CER.CAPACI	TO G
	C494	QCGB1HK-102	1000PF	50V	CER.CAPACI	TO GI
	C501	QEHC1HM-106	10MF	50V	ELECTRO	
	C502	QEHC1HM-106	10MF	50V	ELECTRO	
	C503	QCBB1HK-101	100PF	50V	CER.CAPACI	TO BS
	C503	QCBB1HK-101	100PF	50V	CER.CAPACI	TO EF
	C503	QCBB1HK-101	100PF	50V	CER.CAPACI	TO EN
	C503	QCBB1HK-101	100PF	50V	CER.CAPACI	TO VX
	C504	QCBB1HK-101	100PF	50V	CER.CAPACI	TO BS
	C504	QCBB1HK-101	100PF	50V	CER.CAPACI	TO EF
	C504	QCBB1HK-101	100PF	50V	CER.CAPACI	TO EN
	C504	QCBB1HK-101	100PF	50V	CER.CAPACI	TO VX
	C505	QCBB1HK-221	220PF	50V	CER.CAPACI	TO
	C506	QCBB1HK-221	220PF	50V	CER.CAPACI	TO
	C507	QET41EM-107	100MF	25V	ELECTRO	
	C508	QET41EM-107	100MF	25V	ELECTRO	
	C509	QCSB1HJ-100	10PF	50V	CER.CAPACI	TO
	C510	QCSB1HJ-100	10PF	50V	CER.CAPACI	TO
	C511	QET41HM-226	22MF	50V	ELECTRO	
	C512	QET41HM-226	22MF	50V	ELECTRO	
	C513	QET41HM-476	47MF	50V	ELECTRO	
	C514	QETB1HM-106	10MF	50V	E.CAPACITO	R
	C515	QFLB1HJ-104	0.1MF	50V	MYLAR CAPA	CI
	C516	QFLB1HJ-104	0.1MF	50V	MYLAR CAPA	CI
	C517	QFLB1HJ-104	0.1MF	50V	MYLAR CAPA	CI
	C518	QFLB1HJ-104	0.1MF	50V	MYLAR CAPA	CI
	C536	QET41CM-476	47MF	16V	AL E.CAPAC	IT
	C537	QET41CM-226	22MF	16V	ELECTRO	
	C538	EET4202-228E	2200MF		E.CAPACITO	R
	C539	EET4202-228E	2200MF		E.CAPACITO	R
	C540	QFN82AJ-103	0.01MF	100V	MYLAR CAPA	CI BS
	C540	QFN82AJ-103	0.01MF	100V	MYLAR CAPA	CI EF
	C540	QFN82AJ-103	0.01MF	100V	MYLAR CAPA	CI EN
	C540	QFN82AJ-104	0.1MF	100V	MYLAR CAPA	CI G
	C540	QFN82AJ-104	0.1MF	100V	MYLAR CAPA	CI GI
	C540	QFN82AJ-103	0.01MF	100V	MYLAR CAPA	CI VX
	C541	QFN82AJ-103	0.01MF	100V	MYLAR CAPA	CI BS
	C541	QFN82AJ-103	0.01MF	100V	MYLAR CAPA	CI EF
	C541	QFN82AJ-103	0.01MF	100V	MYLAR CAPA	CI EN
	C541	QFN82AJ-104	0.1MF	100V	MYLAR CAPA	CI G
	C541	QFN82AJ-104	0.1MF	100V	MYLAR CAPA	CI GI
	C541	QFN82AJ-103	0.01MF	100V	MYLAR CAPA	CI VX
	C542	QFN82AJ-103	0.01MF	100V	MYLAR CAPA	CI BS
	C542	QFN82AJ-103	0.01MF	100V	MYLAR CAPA	CI EF
	C542	QFN82AJ-103	0.01MF	100V	MYLAR CAPA	CI EN
	C542	QFN82AJ-104	0.1MF	100V	MYLAR CAPA	CI G
	C542	QFN82AJ-104	0.1MF	100V	MYLAR CAPA	CI GI
	C542	QFN82AJ-103	0.01MF	100V	MYLAR CAPA	CI VX
	C551	QET41CM-226	22MF	16V	ELECTRO	
	C552	QET41CM-476	47MF	16V	AL E.CAPAC	IT
	C553	QCVB1CM-103	0.01MF	16V	CER.CAPACI	TO
	C554	QET41AM-476	47MF	10V	ELECTRO	
	C555	QET41AM-476	47MF	10V	ELECTRO	
	C556	QCVB1CM-103	0.01MF	16V	CER.CAPACI	TO
	C557	QEK41CM-226	22MF	16V	AL E.CAPAC	IT
	C558	QCVB1CM-103	0.01MF	16V	CER.CAPACI	TO
	C559	QET41CM-476	47MF	16V	AL E.CAPAC	IT
	C560	QET41EM-106	10MF	25V	AL E.CAPAC	IT
	C561	QET41EM-106	10MF	25V	AL E.CAPAC	IT
	C562	QCVB1CM-103	0.01MF	16V	CER.CAPACI	TO
	C563	QET41EM-106	10MF	25V	AL E.CAPAC	IT
	C564	QET41CM-226	22MF	16V	ELECTRO	
	C565	QCVB1CM-103	0.01MF	16V	CER.CAPACI	TO
	C566	QET41CM-226	22MF	16V	ELECTRO	
	C567	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI
	C570	QET41AM-476	47MF	10V	ELECTRO	
	C571	QETB1HM-225	2.2MF	50V	E.CAPACITO	R
	C573	QCGB1HK-102	1000PF	50V	CER.CAPACI	TO
	C574	QET41HM-226	22MF	50V	ELECTRO	
	C575	QET41HM-226	22MF	50V	ELECTRO	
	C576	QETB1JM-476	47MF	63V	AL E.CAPAC	IT
	C577	QETB1JM-107	100MF	63V	AL E.CAPAC	IT
	C578	QET41HM-475	4.7MF	50V	ELECTRO	
	C579	QFN82AJ-103	0.01MF	100V	MYLAR CAPA	CI BS
	C579	QFN82AJ-103	0.01MF	100V	MYLAR CAPA	CI EF
	C579	QFN82AJ-103	0.01MF	100V	MYLAR CAPA	CI EN
	C579	QFV82AJ-224	0.22MF	100V	MYLAR CAPA	CI G
	C579	QFV82AJ-224	0.22MF	100V	MYLAR CAPA	CI GI
	C579	QFN82AJ-103	0.01MF	100V	MYLAR CAPA	CI VX
	C580	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI BS
	C580	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI EF
	C580	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI EN
	C580	QFLB1HJ-224	0.22MF	50V	METAL.MYLA	R G
	C580	QFLB1HJ-224	0.22MF	50V	METAL.MYLA	R GI
	C580	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI VX
	C581	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI BS
	C581	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI EF
	C581	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI EN
	C581	QFLB1HJ-224	0.22MF	50V	METAL.MYLA	R G
	C581	QFLB1HJ-224	0.22MF	50V	METAL.MYLA	R GI

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C581	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI VX
	C582	QETB1VM-228M	2200MF	35V	ELECTRO	
	C583	QETB1VM-228M	2200MF	35V	ELECTRO	
	C591	QETB1HM-106	10MF	50V	E.CAPACITO	R
	C593	QCBB1HK-471	470PF	50V	CER.CAPACI	TO G
	C593	QCBB1HK-471	470PF	50V	CER.CAPACI	TO GI
	C594	QCBB1HK-471	470PF	50V	CER.CAPACI	TO G
	C594	QCBB1HK-471	470PF	50V	CER.CAPACI	TO GI
	C595	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO G
	C595	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO GI
	C596	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO G
	C596	QCHB1EZ-223	0.022MF	25V	CER.CAPACI	TO GI
	C597	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI G
	C597	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI GI
	C598	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI G
	C598	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI GI

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R201	QRD167J-562	5.6K 1/6W CARBON RES	IS
	R202	QRD167J-562	5.6K 1/6W CARBON RES	IS
	R203	QRD167J-154	150K 1/6W CARBON RES	IS
	R204	QRD167J-154	150K 1/6W CARBON RES	IS
	R205	QRD167J-562	5.6K 1/6W CARBON RES	IS
	R206	QRD167J-562	5.6K 1/6W CARBON RES	IS
	R207	QRD161J-100	10 1/6W CARBON RES	IS
	R208	QRD161J-100	10 1/6W CARBON RES	IS
	R209	QRD167J-105	1M 1/6W CARBON	
	R210	QRD167J-105	1M 1/6W CARBON	
	R211	QRD167J-104	100K 1/6W CARBON RES	IS
	R212	QRD167J-104	100K 1/6W CARBON RES	IS
	R213	QRD167J-105	1M 1/6W CARBON	
	R214	QRD167J-103	10K 1/6W CARBON RES	IS
	R215	QRD167J-105	1M 1/6W CARBON	
	R216	QRD167J-563	56K 1/6W CARBON RES	IS
	R217	QRD167J-104	100K 1/6W CARBON RES	IS
	R218	QRD167J-471	470 1/6W CARBON RES	IS
	R219	QVPA601-104A	100K TRIMMER RE	SI
	R220	QVPA601-104A	100K TRIMMER RE	SI
	R221	QVPA601-104A	100K TRIMMER RE	SI
	R222	QVPA601-104A	100K TRIMMER RE	SI
	R223	QRD167J-471	470 1/6W CARBON RES	IS
	R225	QRD167J-470	47 1/6W CARBON RES	IS
	R226	QRD167J-470	47 1/6W CARBON RES	IS
	R227	QRD167J-334	330K 1/6W CARBON RES	IS
	R228	QRD167J-334	330K 1/6W CARBON RES	IS
	R229	QRD167J-432	4.3K 1/6W CARBON	
	R230	QRD167J-432	4.3K 1/6W CARBON	
	R231	QRD161J-272	2.7K 1/6W CARBON RES	IS
	R232	QRD161J-272	2.7K 1/6W CARBON RES	IS
	R233	QRD161J-272	2.7K 1/6W CARBON RES	IS
	R234	QRD161J-272	2.7K 1/6W CARBON RES	IS
	R235	QRD167J-223	22K 1/6W CARBON RES	IS
	R236	QRD167J-223	22K 1/6W CARBON RES	IS
	R237	QRD167J-752	7.5K 1/6W CARBON	
	R238	QRD167J-752	7.5K 1/6W CARBON	
	R239	QRD167J-105	1M 1/6W CARBON	
	R240	QRD167J-105	1M 1/6W CARBON	
	R241	QRD167J-105	1M 1/6W CARBON	
	R242	QRD167J-105	1M 1/6W CARBON	
	R243	QRD167J-471	470 1/6W CARBON RES	IS
	R244	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R245	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R247	QRD167J-562	5.6K 1/6W CARBON RES	IS
	R248	QRD167J-104	100K 1/6W CARBON RES	IS
	R249	QRD167J-274	270K 1/6W CARBON	
	R251	QVPA601-201A	200 TRIMMER RE	SI
	R252	QVPA601-201A	200 TRIMMER RE	SI
	R253	QVPA601-201A	200 TRIMMER RE	SI
	R254	QVPA601-201A	200 TRIMMER RE	SI
	R255	QRD167J-103	10K 1/6W CARBON RES	IS
	R256	QRD167J-103	10K 1/6W CARBON RES	IS
	R257	QRD167J-822	8.2K 1/6W CARBON RES	IS
	R258	QRD167J-822	8.2K 1/6W CARBON RES	IS
	R259	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R260	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R261	QRD167J-102	1K 1/6W CARBON RES	IS BS
	R261	QRD167J-102	1K 1/6W CARBON RES	IS EF
	R261	QRD167J-102	1K 1/6W CARBON RES	IS EN
	R261	QRD167J-102	1K 1/6W CARBON RES	IS G
	R261	QRD167J-102	1K 1/6W CARBON RES	IS GI
	R261	QRD167J-102	1K 1/6W CARBON RES	IS VX
	R265	QRD167J-271	270 1/6W CARBON RES	IS
	R266	QRD167J-271	270 1/6W CARBON RES	IS
	R270	QRD167J-103	10K 1/6W CARBON RES	IS
	R271	QRD167J-103	10K 1/6W CARBON RES	IS
	R272	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R273	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R277	QRD167J-103	10K 1/6W CARBON RES	IS
	R278	QRD167J-103	10K 1/6W CARBON RES	IS
	R281	QRD167J-475	4.7M 1/6W CARBON	
	R282	QRD167J-475	4.7M 1/6W CARBON	
	R301	QRD167J-223	22K 1/6W CARBON RES	IS
	R302	QRD167J-223	22K 1/6W CARBON RES	IS
	R303	QRD167J-273	27K 1/6W CARBON	
	R304	QRD167J-273	27K 1/6W CARBON	
	R305	QRD167J-683	68K 1/6W CARBON RES	IS
	R306	QRD167J-683	68K 1/6W CARBON RES	IS
	R307	QRD167J-153	15K 1/6W CARBON RES	IS
	R308	QRD167J-153	15K 1/6W CARBON RES	IS
	R309	QRD167J-223	22K 1/6W CARBON RES	IS
	R310	QRD167J-223	22K 1/6W CARBON RES	IS
	R313	QRD167J-242	2.4K 1/6W CARBON	
	R314	QRD167J-242	2.4K 1/6W CARBON	
	R315	QRD167J-750	75 1/6W CARBON RES	IS
	R316	QRD167J-750	75 1/6W CARBON RES	IS
	R317	QRD167J-241	240 1/6W CARBON RES	IS
	R318	QRD167J-241	240 1/6W CARBON RES	IS
	R319	QRD167J-302	3K 1/6W CARBON	
	R320	QRD167J-302	3K 1/6W CARBON	
	R321	QRD167J-752	7.5K 1/6W CARBON	
	R322	QRD167J-752	7.5K 1/6W CARBON	
	R323	QRD167J-202	2K 1/6W CARBON	
	R324	QRD167J-202	2K 1/6W CARBON	

⚠ :SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R325	QRD167J-104	100K 1/6W CARBON RES	IS
	R326	QRD167J-104	100K 1/6W CARBON RES	IS
	R327	QRD167J-432	4.3K 1/6W CARBON	
	R328	QRD167J-432	4.3K 1/6W CARBON	
	R329	QRD167J-103	10K 1/6W CARBON RES	IS
	R330	QRD167J-103	10K 1/6W CARBON RES	IS
	R331	QRD167J-221	220 1/6W CARBON RES	IS
	R332	QRD167J-221	220 1/6W CARBON RES	IS
	R333	QRD167J-103	10K 1/6W CARBON RES	IS
	R335	QVPA601-204A	200K TRIMMER RE	SI
	R336	QVPA601-204A	200K TRIMMER RE	SI
	R337	QRD167J-473	47K 1/6W CARBON RES	IS
	R338	QRD167J-473	47K 1/6W CARBON RES	IS
	R339	QRD148J-5R6	5.6 1/4W CARBON	BS
	R339	QRD148J-5R6	5.6 1/4W CARBON	EF
	R339	QRD148J-5R6	5.6 1/4W CARBON	EN
	R339	QRD148J-5R6	5.6 1/4W CARBON	G
	R339	QRD148J-5R6	5.6 1/4W CARBON	GI
	R339	QRD148J-5R6	5.6 1/4W CARBON	VX
	R340	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R341	QRD167J-104	100K 1/6W CARBON RES	IS
	R342	QRD167J-332	3.3K 1/6W CARBON RES	IS
	R343	QRD167J-101	100 1/6W CARBON	
	R344	QRD167J-151	150 1/6W CARBON RES	IS
⚠	R345	QRZ0077-100	10 1/4W FUSIBLE RE	SI BS
⚠	R345	QRZ0077-100	10 1/4W FUSIBLE RE	SI EF
⚠	R345	QRZ0077-100	10 1/4W FUSIBLE RE	SI EN
⚠	R345	QRZ0077-100	10 1/4W FUSIBLE RE	SI G
⚠	R345	QRZ0077-100	10 1/4W FUSIBLE RE	SI GI
⚠	R345	QRZ0077-100	10 1/4W FUSIBLE RE	SI VX
	R351	QRD167J-203	20K 1/6W CARBON	
	R352	QRD167J-203	20K 1/6W CARBON	
	R353	QRD167J-302	3K 1/6W CARBON	
	R354	QRD167J-302	3K 1/6W CARBON	
	R355	QRD167J-561	560 1/6W CARBON	
	R356	QRD167J-561	560 1/6W CARBON	
	R357	QRD167J-223	22K 1/6W CARBON RES	IS
	R358	QRD167J-223	22K 1/6W CARBON RES	IS
	R359	QRD167J-392	3.9K 1/6W CARBON RES	IS
	R360	QRD167J-392	3.9K 1/6W CARBON RES	IS
	R361	QRD167J-473	47K 1/6W CARBON RES	IS
	R362	QRD167J-473	47K 1/6W CARBON RES	IS
	R363	QRD167J-153	15K 1/6W CARBON RES	IS
	R364	QRD167J-153	15K 1/6W CARBON RES	IS
	R365	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R366	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R367	QVPA601-503A	50K TRIMMER RE	SI
	R368	QVPA601-503A	50K TRIMMER RE	SI
	R371	QRD167J-103	10K 1/6W CARBON RES	IS
	R372	QRD167J-103	10K 1/6W CARBON RES	IS
	R373	QRD167J-243	24K 1/6W CARBON RES	IS
	R374	QRD167J-102	1K 1/6W CARBON RES	IS
	R381	QRD167J-153	15K 1/6W CARBON RES	IS
	R382	QRD167J-153	15K 1/6W CARBON RES	IS
	R383	QRD167J-822	8.2K 1/6W CARBON RES	IS
	R384	QRD167J-822	8.2K 1/6W CARBON RES	IS
⚠	R385	QRZ0077-220	22 1/4W FUSIBLE RE	SI BS
⚠	R385	QRZ0077-220	22 1/4W FUSIBLE RE	SI EF
⚠	R385	QRZ0077-220	22 1/4W FUSIBLE RE	SI EN
⚠	R385	QRZ0077-220	22 1/4W FUSIBLE RE	SI G
⚠	R385	QRZ0077-220	22 1/4W FUSIBLE RE	SI GI
⚠	R385	QRZ0077-220	22 1/4W FUSIBLE RE	SI VX
	R386	QRD167J-183	18K 1/6W CARBON	
	R387	QRD167J-103	10K 1/6W CARBON RES	IS
	R389	QRD167J-682	6.8K 1/6W CARBON RES	IS
	R390	QRD167J-682	6.8K 1/6W CARBON RES	IS
	R391	QRD167J-103	10K 1/6W CARBON RES	IS
	R401	QRD167J-474	470K 1/6W CARBON RES	IS
	R402	QRD167J-474	470K 1/6W CARBON RES	IS
	R403	QRD167J-393	39K 1/6W CARBON RES	IS
	R404	QRD167J-393	39K 1/6W CARBON RES	IS
	R405	QRD167J-102	1K 1/6W CARBON RES	IS
	R406	QRD167J-102	1K 1/6W CARBON RES	IS
	R407	QRD167J-104	100K 1/6W CARBON RES	IS
	R408	QRD167J-104	100K 1/6W CARBON RES	IS
	R409	QRD167J-823	82K 1/6W CARBON RES	IS
	R410	QRD167J-823	82K 1/6W CARBON RES	IS
	R411	QRD161J-272	2.7K 1/6W CARBON RES	IS
	R412	QRD161J-272	2.7K 1/6W CARBON RES	IS
	R413	QRD167J-104	100K 1/6W CARBON RES	IS
	R414	QRD167J-104	100K 1/6W CARBON RES	IS
	R421	QRD167J-104	100K 1/6W CARBON RES	IS
	R422	QRD167J-104	100K 1/6W CARBON RES	IS
	R423	QRD167J-393	39K 1/6W CARBON RES	IS
	R424	QRD167J-393	39K 1/6W CARBON RES	IS
	R425	QRD167J-393	39K 1/6W CARBON RES	IS
	R426	QRD167J-393	39K 1/6W CARBON RES	IS
	R427	QRD167J-104	100K 1/6W CARBON RES	IS
	R428	QRD167J-104	100K 1/6W CARBON RES	IS
	R431	QRD167J-203	20K 1/6W CARBON	
	R432	QRD167J-203	20K 1/6W CARBON	
	R433	QRD167J-153	15K 1/6W CARBON RES	IS
	R434	QRD167J-153	15K 1/6W CARBON RES	IS
	R435	QRD167J-562	5.6K 1/6W CARBON RES	IS
	R436	QRD167J-562	5.6K 1/6W CARBON RES	IS

⚠ :SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R437	QRD167J-153	15K	1/6W	CARBON RES	IS
	R438	QRD167J-153	15K	1/6W	CARBON RES	IS
	R439	QRD167J-273	27K	1/6W	CARBON	
	R440	QRD167J-273	27K	1/6W	CARBON	
	R441	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R442	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R443	QRD167J-182	1.8K	1/6W	CARBON RES	IS BS
	R443	QRD167J-182	1.8K	1/6W	CARBON RES	IS EF
	R443	QRD167J-182	1.8K	1/6W	CARBON RES	IS EN
	R443	QRD167J-182	1.8K	1/6W	CARBON RES	IS G
	R443	QRD167J-182	1.8K	1/6W	CARBON RES	IS GI
	R443	QRD167J-182	1.8K	1/6W	CARBON RES	IS VX
	R444	QRD167J-182	1.8K	1/6W	CARBON RES	IS BS
	R444	QRD167J-182	1.8K	1/6W	CARBON RES	IS EF
	R444	QRD167J-182	1.8K	1/6W	CARBON RES	IS EN
	R444	QRD167J-182	1.8K	1/6W	CARBON RES	IS G
	R444	QRD167J-182	1.8K	1/6W	CARBON RES	IS GI
	R444	QRD167J-182	1.8K	1/6W	CARBON RES	IS VX
	R445	QRD167J-682	6.8K	1/6W	CARBON RES	IS BS
	R445	QRD167J-682	6.8K	1/6W	CARBON RES	IS EF
	R445	QRD167J-682	6.8K	1/6W	CARBON RES	IS EN
	R445	QRD167J-682	6.8K	1/6W	CARBON RES	IS G
	R445	QRD167J-682	6.8K	1/6W	CARBON RES	IS GI
	R445	QRD167J-682	6.8K	1/6W	CARBON RES	IS VX
	R446	QRD167J-682	6.8K	1/6W	CARBON RES	IS BS
	R446	QRD167J-682	6.8K	1/6W	CARBON RES	IS EF
	R446	QRD167J-682	6.8K	1/6W	CARBON RES	IS EN
	R446	QRD167J-682	6.8K	1/6W	CARBON RES	IS G
	R446	QRD167J-682	6.8K	1/6W	CARBON RES	IS GI
	R446	QRD167J-682	6.8K	1/6W	CARBON RES	IS VX
	R447	QRD167J-472	4.7K	1/6W	CARBON RES	IS BS
	R447	QRD167J-472	4.7K	1/6W	CARBON RES	IS EF
	R447	QRD167J-472	4.7K	1/6W	CARBON RES	IS EN
	R447	QRD167J-472	4.7K	1/6W	CARBON RES	IS G
	R447	QRD167J-472	4.7K	1/6W	CARBON RES	IS GI
	R447	QRD167J-472	4.7K	1/6W	CARBON RES	IS VX
	R448	QRD167J-472	4.7K	1/6W	CARBON RES	IS BS
	R448	QRD167J-472	4.7K	1/6W	CARBON RES	IS EF
	R448	QRD167J-472	4.7K	1/6W	CARBON RES	IS EN
	R448	QRD167J-472	4.7K	1/6W	CARBON RES	IS G
	R448	QRD167J-472	4.7K	1/6W	CARBON RES	IS GI
	R448	QRD167J-472	4.7K	1/6W	CARBON RES	IS VX
	R449	QRD167J-182	1.8K	1/6W	CARBON RES	IS BS
	R449	QRD167J-182	1.8K	1/6W	CARBON RES	IS EF
	R449	QRD167J-182	1.8K	1/6W	CARBON RES	IS EN
	R449	QRD167J-182	1.8K	1/6W	CARBON RES	IS G
	R449	QRD167J-182	1.8K	1/6W	CARBON RES	IS GI
	R449	QRD167J-182	1.8K	1/6W	CARBON RES	IS VX
	R450	QRD167J-182	1.8K	1/6W	CARBON RES	IS BS
	R450	QRD167J-182	1.8K	1/6W	CARBON RES	IS EF
	R450	QRD167J-182	1.8K	1/6W	CARBON RES	IS EN
	R450	QRD167J-182	1.8K	1/6W	CARBON RES	IS G
	R450	QRD167J-182	1.8K	1/6W	CARBON RES	IS GI
	R450	QRD167J-182	1.8K	1/6W	CARBON RES	IS VX
	R451	QRD167J-273	27K	1/6W	CARBON	
	R452	QRD167J-102	1K	1/6W	CARBON RES	IS
	R453	QRD167J-103	10K	1/6W	CARBON RES	IS
	R454	QRD167J-103	10K	1/6W	CARBON RES	IS
	R455	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R456	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R461	QRD167J-224	220K	1/6W	CARBON RES	IS
	R462	QRD167J-224	220K	1/6W	CARBON RES	IS
	R463	QRD167J-222	2.2K	1/6W	CARBON RES	IS
	R464	QRD167J-105	1M	1/6W	CARBON	
	R465	QRD167J-222	2.2K	1/6W	CARBON RES	IS
	R466	QRD148J-4R7	4.7	1/4W	CARBON	
	R470	QVDB91B-E15H	100K		VARIABLE R	ES
	R473	QRD167J-203	20K	1/6W	CARBON	
	R474	QRD167J-203	20K	1/6W	CARBON	
	R475	QRD167J-682	6.8K	1/6W	CARBON RES	IS
	R476	QRD167J-682	6.8K	1/6W	CARBON RES	IS
	R477	QRD167J-151	150	1/6W	CARBON RES	IS
	R478	QRD167J-151	150	1/6W	CARBON RES	IS
	R479	QRD167J-684	680K	1/6W	CARBON	
	R480	QRD167J-684	680K	1/6W	CARBON	
	R481	QRD167J-102	1K	1/6W	CARBON RES	IS
	R482	QRD167J-102	1K	1/6W	CARBON RES	IS
	R483	QRD167J-681	680	1/6W	CARBON	
	R484	QRD167J-681	680	1/6W	CARBON	
	R501	QRD167J-102	1K	1/6W	CARBON RES	IS
	R502	QRD167J-102	1K	1/6W	CARBON RES	IS
	R503	QRD167J-104	100K	1/6W	CARBON RES	IS
	R504	QRD167J-104	100K	1/6W	CARBON RES	IS
	R505	QRD167J-102	1K	1/6W	CARBON RES	IS
	R506	QRD167J-102	1K	1/6W	CARBON RES	IS
	R507	QRD167J-471	470	1/6W	CARBON RES	IS
	R508	QRD167J-471	470	1/6W	CARBON RES	IS
	R509	QRD167J-104	100K	1/6W	CARBON RES	IS
	R510	QRD167J-104	100K	1/6W	CARBON RES	IS
	R511	QRD167J-242	2.4K	1/6W	CARBON	
	R512	QRD167J-242	2.4K	1/6W	CARBON	
	R513	QRD167J-242	2.4K	1/6W	CARBON	
	R514	QRD167J-242	2.4K	1/6W	CARBON	
⚠	R515	QRX012J-R22AM	0.22	1W	METAL FILM	R
⚠	R516	QRX012J-R22AM	0.22	1W	METAL FILM	R

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
⚠	R517	QRZ0077-101	100	1/4W	FUSIBLE RE	SI BS
⚠	R517	QRZ0077-101	100	1/4W	FUSIBLE RE	SI EF
⚠	R517	QRZ0077-101	100	1/4W	FUSIBLE RE	SI EN
⚠	R517	QRZ0077-101	100	1/4W	FUSIBLE RE	SI G
⚠	R517	QRZ0077-101	100	1/4W	FUSIBLE RE	SI GI
⚠	R517	QRZ0077-101	100	1/4W	FUSIBLE RE	SI VX
⚠	R518	QRZ0077-100	10	1/4W	FUSIBLE RE	SI
	R519	QRD148J-100	10	1/4W	CARBON RES	IS
	R520	QRD148J-100	10	1/4W	CARBON RES	IS
	R521	QRD148J-100	10	1/4W	CARBON RES	IS
	R522	QRD148J-100	10	1/4W	CARBON RES	IS
	R529	QRD167J-103	10K	1/6W	CARBON RES	IS
	R530	QRD167J-154	150K	1/6W	CARBON RES	IS
	R531	QRD167J-473	47K	1/6W	CARBON RES	IS
	R532	QRD148J-100	10	1/4W	CARBON RES	IS
	R533	QRD148J-222	2.2K	1/4W	CARBON	
	R534	QRD148J-222	2.2K	1/4W	CARBON	
	R536	QRD167J-100	10	1/6W	CARBON RES	IS BS
	R536	QRD167J-100	10	1/6W	CARBON RES	IS EF
	R536	QRD167J-100	10	1/6W	CARBON RES	IS EN
	R536	QRD167J-100	10	1/6W	CARBON RES	IS G
	R536	QRD167J-100	10	1/6W	CARBON RES	IS GI
	R536	QRD167J-100	10	1/6W	CARBON RES	IS VX
	R537	QRD167J-104	100K	1/6W	CARBON RES	IS
	R538	QRD167J-104	100K	1/6W	CARBON RES	IS
	R539	QRD167J-103	10K	1/6W	CARBON RES	IS
	R540	QRD167J-104	100K	1/6W	CARBON RES	IS
	R541	QRD167J-103	10K	1/6W	CARBON RES	IS
	R542	QRD167J-222	2.2K	1/6W	CARBON RES	IS
	R543	QRD167J-823	82K	1/6W	CARBON RES	IS
	R544	QRD167J-104	100K	1/6W	CARBON RES	IS
⚠	R545	QRG022J-561AM	560	2W	OXIDE META	L
	R546	QRD167J-152	1.5K	1/6W	CARBON RES	IS
	R547	QRD148J-100	10	1/4W	CARBON RES	IS G
	R547	QRD148J-100	10	1/4W	CARBON RES	IS GI
	R548	QRD148J-100	10	1/4W	CARBON RES	IS G
	R548	QRD148J-100	10	1/4W	CARBON RES	IS GI
	R551	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R552	QRD167J-392	3.9K	1/6W	CARBON RES	IS
	R553	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R554	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R555	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R556	QRD167J-153	15K	1/6W	CARBON RES	IS
	R557	QRD167J-103	10K	1/6W	CARBON RES	IS
	R558	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R559	QRD167J-222	2.2K	1/6W	CARBON RES	IS
⚠	R561	QRZ0077-8R2	8.2	1/4W	FUSIBLE RE	SI BS
⚠	R561	QRZ0077-8R2	8.2	1/4W	FUSIBLE RE	SI EF
⚠	R561	QRZ0077-8R2	8.2	1/4W	FUSIBLE RE	SI EN
⚠	R561	QRZ0077-8R2	8.2	1/4W	FUSIBLE RE	SI G
⚠	R561	QRZ0077-8R2	8.2	1/4W	FUSIBLE RE	SI GI
⚠	R561	QRZ0077-8R2	8.2	1/4W	FUSIBLE RE	SI VX
⚠	R562	QRZ0077-8R2	8.2	1/4W	FUSIBLE RE	SI BS
⚠	R562	QRZ0077-8R2	8.2	1/4W	FUSIBLE RE	SI EF
⚠	R562	QRZ0077-8R2	8.2	1/4W	FUSIBLE RE	SI EN
⚠	R562	QRZ0077-8R2	8.2	1/4W	FUSIBLE RE	SI G
⚠	R562	QRZ0077-8R2	8.2	1/4W	FUSIBLE RE	SI GI
⚠	R562	QRZ0077-8R2	8.2	1/4W	FUSIBLE RE	SI VX
⚠	R563	QRZ0077-5R6	5.6	1/4W	FUSIBLE RE	SI BS
⚠	R563	QRZ0077-5R6	5.6	1/4W	FUSIBLE RE	SI EF
⚠	R563	QRZ0077-5R6	5.6	1/4W	FUSIBLE RE	SI EN
⚠	R563	QRZ0077-5R6	5.6	1/4W	FUSIBLE RE	SI G
⚠	R563	QRZ0077-5R6	5.6	1/4W	FUSIBLE RE	SI GI
⚠	R563	QRZ0077-5R6	5.6	1/4W	FUSIBLE RE	SI VX
⚠	R564	QRZ0077-470	47	1/4W	FUSIBLE RE	SI BS
⚠	R564	QRZ0077-470	47	1/4W	FUSIBLE RE	SI EF
⚠	R564	QRZ0077-470	47	1/4W	FUSIBLE RE	SI EN
⚠	R564	QRZ0077-470	47	1/4W	FUSIBLE RE	SI G
⚠	R564	QRZ0077-470	47	1/4W	FUSIBLE RE	SI GI
⚠	R564	QRZ0077-470	47	1/4W	FUSIBLE RE	SI VX
	R573	QRD167J-102	1K	1/6W	CARBON RES	IS
	R574	QRD167J-103	10K	1/6W	CARBON RES	IS
	R575	QRD167J-103	10K	1/6W	CARBON RES	IS
	R576	QRD167J-562	5.6K	1/6W	CARBON RES	IS
⚠	R577	PTH61G25AR4R7M			FUSIBLE RE	SI
⚠	R581	QRX022J-2R2AM	2.2	2W	METAL FILM	R
⚠	R582	QRX022J-2R2AM	2.2	2W	METAL FILM	R
	R591	QRD148J-222	2.2K	1/4W	CARBON	
⚠	R592	QRZ0077-100	10	1/4W	FUSIBLE RE	SI
⚠	R598	QRZ0077-100	10	1/4W	FUSIBLE RE	SI BS
⚠	R598	QRZ0077-100	10	1/4W	FUSIBLE RE	SI EF
⚠	R598	QRZ0077-100	10	1/4W	FUSIBLE RE	SI EN
⚠	R598	QRZ0077-100	10	1/4W	FUSIBLE RE	SI G
⚠	R598	QRZ0077-100	10	1/4W	FUSIBLE RE	SI GI
⚠	R598	QRZ0077-100	10	1/4W	FUSIBLE RE	SI VX
	R998	QRD167J-103	10K	1/6W	CARBON RES	IS

⚠ : SAFETY PARTS

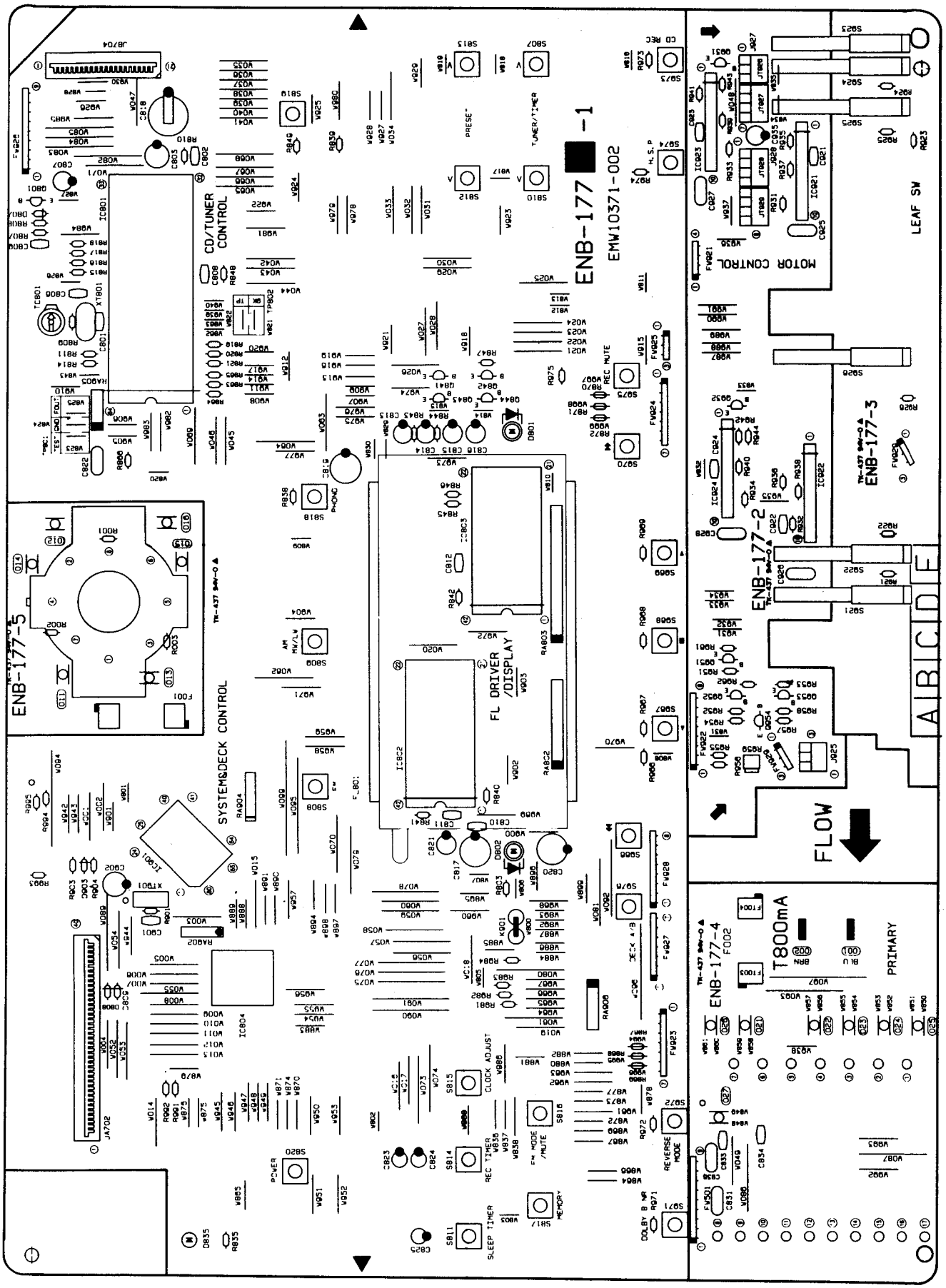
OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		QWE351-19RR	WIRET	
		QWE357-20RR	WIRE	
		E33754-001	CORD CLAMP	
		E306805-099	SPACER	
		QWE351-22RR	WIRE	G
		QWE355-15RR	WIRE	G
		EWT011-104	TERMINAL WIRE ASSY	G
		QWE351-22RR	WIRE	GI
		QWE355-15RR	WIRE	GI
		EWT011-104	TERMINAL WIRE ASSY	GI
	J401	EMN00TV-209A	PIN JACK(PHONO IN)	
	J402	EMV5109-007A	MALE CONNECTOR	
	J403	EMV5109-003A	MALE CONNECTOR	
	J481	QMS6312-024	PIN JACK	
	J502	EMV7122-005	MALE CONNECTOR	
	J503	EMB90YV-401A	SPEAKER TERMINAL	
	J504	QMA1221-009	DC JACK(DC OUT)	
	K241	ENZ8101-007	INDUCTOR	G
	K241	ENZ8101-007	INDUCTOR	GI
	K242	ENZ8101-007	INDUCTOR	G
	K242	ENZ8101-007	INDUCTOR	GI
	K401	ENZ8101-011	FERRITE BEADS	G
	K401	ENZ8101-011	FERRITE BEADS	GI
	K501	ENZ8101-011	FERRITE BEADS	G
	K501	ENZ8101-011	FERRITE BEADS	GI
	K502	ENZ8101-011	FERRITE BEADS	G
	K502	ENZ8101-011	FERRITE BEADS	GI
	L221	EQL2106-223	INDUCTOR	
	L222	EQL2106-223	INDUCTOR	
	L223	EQL4007-101	INDUCTOR	G
	L223	EQL4007-101	INDUCTOR	GI
	L224	EQL4007-101	INDUCTOR	G
	L224	EQL4007-101	INDUCTOR	GI
	L301	EQL2126-562	INDUCTOR	
	L302	EQL2126-562	INDUCTOR	
	L309	EQL2106-223	INDUCTOR	
	L310	EQL2106-223	INDUCTOR	
	L335	ENZ6002-013	OSC COIL	
	L501	EQL0001-R45	INDUCTOR	
	L502	EQL0001-R45	INDUCTOR	
	P201	EMV5133-003K	CONNECT TERMINAL(3PIN) A HEAD	
	P202	EMV5133-005K	CONNECT TERMINAL(5PIN) B HEAD	
	S335	QSS7A12-E01	SLIDE SWITCH	
	BC402	EWS297-2524	SOCKET WIRE	
	BC403	EWS293-0125	SOCKET WIRE	
	EP005	EMZ4002-001Z	EARTH PLATE	
	FS211	E3400-431	FELT SPACER	
	FS449	E3400-431	FELT SPACER	
	FS450	E3400-431	FELT SPACER	
	FS567	E3400-431	FELT SPACER	
	FT101	VMZ0087-001	FUSE CLIP	
	FT102	VMZ0087-001	FUSE CLIP	
	FT103	VMZ0087-001	FUSE CLIP	
	FT104	VMZ0087-001	FUSE CLIP	
	FW502	EWR35B-45LST	FLAT WIRE ASSY(5PIN)	
	JB101	EMV5140-015	CONNECT TERMINAL(15PIN)	
	JB702	EMV7123-040	MALE CONNECTOR(40PIN)	
	JT501	EMV7122-004	CONNECT TERMINAL(9PIN)	
	JT502	EMV7122-005	MALE CONNECTOR(5PIN)	
	JT601	EMV7122-004	CONNECT TERMINAL(4PIN)	
	JT602	EMV7122-005	MALE CONNECTOR(5PIN)	
	RY501	ESK7D24-2120	RELAY	

⚠ :SAFETY PARTS

■ENB-177☐ Front PC Board Ass'y

Note : ENB-177 ☐ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Version	Designated Areas
ENB-177 [A]	EN EF	Scandinavia Continental Europe
ENB-177 [B] BS	BS	the U.K.
ENB-177 [C]	G	Germany
ENB-177 [D]	GI	Italy
ENB-177 [E]	VX	East Europe

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q801	DTC114YS	DIGITAL TRAROHM	
	Q841	DTC144ES	DIGITAL TRAROHM	
	Q842	DTC144ES	DIGITAL TRAROHM	
	Q843	DTC144ES	DIGITAL TRAROHM	
	Q844	DTA114YS	DIGITAL TRAROHM	
	Q931	DTC144ES	DIGITAL TRAROHM	
	Q932	DTC144ES	DIGITAL TRAROHM	
	Q951	2SC1685(R,S)	SI.TRANSISTMATSUSHITA	
	Q952	2SC1685(R,S)	SI.TRANSISTMATSUSHITA	
	Q953	2SA933S(R,S)	SI.TRANSIST	
	Q954	2SA933S(R,S)	SI.TRANSIST	

⚠ :SAFETY PARTS

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC801	HD404019RC25S	I.C(MICRO-CHITACHI	BS
	IC801	HD404019RC25S	I.C(MICRO-CHITACHI	EF
	IC801	HD404019RC25S	I.C(MICRO-CHITACHI	EN
	IC801	HD404019RC25S	I.C(MICRO-CHITACHI	G
	IC801	HD404019RC25S	I.C(MICRO-CHITACHI	GI
	IC801	HD404019RC25S	I.C(MICRO-CHITACHI	VX
	IC802	MSC7112-01SS	I.C(DIGI-MONIHON DENSO	
	IC803	XR1095CP	I.C(MONO-ANEXAR JAPAN	
	IC804	SPS-420-1	INFRARED DESANYO	
	IC901	HD404719A39FS	I.C(MICRO-CHITACHI	BS
	IC901	HD404719A39FS	I.C(MICRO-CHITACHI	EF
	IC901	HD404719A39FS	I.C(MICRO-CHITACHI	EN
	IC901	HD404719A39FS	I.C(MICRO-CHITACHI	G
	IC901	HD404719A39FS	I.C(MICRO-CHITACHI	GI
	IC901	HD404719A39FS	I.C(MICRO-CHITACHI	VX
	IC921	LB1641	I.C(DIGI-OTSANYO	
	IC922	LB1641	I.C(DIGI-OTSANYO	
	IC923	LB1641	I.C(DIGI-OTSANYO	
	IC924	LB1641	I.C(DIGI-OTSANYO	

⚠ :SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION		AREA
	D801	SLA-580LTF05	L.E.D.	ROHM	BS
	D801	SLA-580LTF05	L.E.D.	ROHM	EF
	D801	SLA-580LTF05	L.E.D.	ROHM	EN
	D801	SLA-580LTF05	L.E.D.	ROHM	G
	D801	SLA-580LTF05	L.E.D.	ROHM	GI
	D801	SLA-580LTF05	L.E.D.	ROHM	VX
	D802	SLA-580LTF05	L.E.D.	ROHM	BS
	D802	SLA-580LTF05	L.E.D.	ROHM	EF
	D802	SLA-580LTF05	L.E.D.	ROHM	EN
	D802	SLA-580LTF05	L.E.D.	ROHM	G
	D802	SLA-580LTF05	L.E.D.	ROHM	GI
	D802	SLA-580LTF05	L.E.D.	ROHM	VX
	D807	1SS119	SI.DIODE	HITACHI	
	D808	1SS119	SI.DIODE	HITACHI	
	D809	1SS119	SI.DIODE	HITACHI	
	D835	SLA-580LT70F124	L.E.D.	ROHM	BS
	D835	SLR-342VC3F	L.E.D.	ROHM	EF
	D835	SLR-342VC3F	L.E.D.	ROHM	EN
	D835	SLR-342VC3F	L.E.D.	ROHM	G
	D835	SLR-342VC3F	L.E.D.	ROHM	GI
	D835	SLR-342VC3F	L.E.D.	ROHM	VX
	D903	1SS119	SI.DIODE	HITACHI	

⚠ :SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C801	QCT30CH-120	12PF	50V	CER.CAPACI	TO
	C802	QCVB1CM-103	0.01MF	16V	CER.CAPACI	TO
	C803	QER40JM-107	100MF	6.3V	E.CAPACITO	R
	C806	QCVB1CM-103	0.01MF	16V	CER.CAPACI	TO
	C807	QEK41EM-475	4.7MF	25V	AL E.CAPAC	IT
	C808	QCVB1CM-103	0.01MF	16V	CER.CAPACI	TO
	C809	QCVB1CM-103	0.01MF	16V	CER.CAPACI	TO
	C810	QCBB1HK-151	150PF	50V	CER.CAPACI	TO
	C811	QCBB1HK-471	470PF	50V	CER.CAPACI	TO
	C812	QCXB1CM-152	1500PF	16V	CER.CAPACI	TO
	C813	QETB1HM-225	2.2MF	50V	E.CAPACITO	R
	C814	QETB1HM-225	2.2MF	50V	E.CAPACITO	R
	C815	QEK41CM-106	10MF	16V	AL E.CAPAC	IT
	C816	QEK41CM-106	10MF	16V	AL E.CAPAC	IT
	C817	QER40JM-107	100MF	6.3V	E.CAPACITO	R
	C818	QEZ0171-10AM			E.CAPACITO	R
	C819	QEK51HM-226	22MF	50V	AL E.CAPAC	IT BS
	C819	QEK51HM-226	22MF	50V	AL E.CAPAC	IT EF
	C819	QEK51HM-226	22MF	50V	AL E.CAPAC	IT EN
	C819	QEK51HM-226	22MF	50V	AL E.CAPAC	IT G
	C819	QEK51HM-226	22MF	50V	AL E.CAPAC	IT GI
	C819	QEK51HM-226	22MF	50V	AL E.CAPAC	IT VX
	C820	QEK51HM-226	22MF	50V	AL E.CAPAC	IT BS
	C820	QEK51HM-226	22MF	50V	AL E.CAPAC	IT EF
	C820	QEK51HM-226	22MF	50V	AL E.CAPAC	IT EN
	C820	QEK51HM-226	22MF	50V	AL E.CAPAC	IT G
	C820	QEK51HM-226	22MF	50V	AL E.CAPAC	IT GI
	C820	QEK51HM-226	22MF	50V	AL E.CAPAC	IT VX
	C821	QET41HM-226	22MF	50V	ELECTRO	
	C822	QFLB1HJ-153	0.015MF	50V	MYLAR CAPA	CI BS
	C822	QFLB1HJ-153	0.015MF	50V	MYLAR CAPA	CI EF
	C822	QFLB1HJ-153	0.015MF	50V	MYLAR CAPA	CI EN
	C822	QFLB1HJ-153	0.015MF	50V	MYLAR CAPA	CI G
	C822	QFLB1HJ-153	0.015MF	50V	MYLAR CAPA	CI GI
	C822	QFLB1HJ-153	0.015MF	50V	MYLAR CAPA	CI VX
	C833	QCGB1HK-102	1000PF	50V	CER.CAPACI	TO G
	C833	QCGB1HK-102	1000PF	50V	CER.CAPACI	TO GI
	C834	QCGB1HK-102	1000PF	50V	CER.CAPACI	TO G
	C834	QCGB1HK-102	1000PF	50V	CER.CAPACI	TO GI
	C901	QCVB1CM-103	0.01MF	16V	CER.CAPACI	TO
	C902	QET41AM-107	100MF	10V	AL E.CAPAC	IT
	C921	QCVB1CM-103	0.01MF	16V	CER.CAPACI	TO
	C922	QCVB1CM-103	0.01MF	16V	CER.CAPACI	TO
	C923	QCVB1CM-103	0.01MF	16V	CER.CAPACI	TO
	C924	QCVB1CM-103	0.01MF	16V	CER.CAPACI	TO
	C925	QFN81HJ-223	0.022MF	50V	METAL.MYLA	R
	C926	QFN81HJ-223	0.022MF	50V	METAL.MYLA	R
	C927	QFN81HJ-223	0.022MF	50V	METAL.MYLA	R
	C928	QFN81HJ-223	0.022MF	50V	METAL.MYLA	R
	C935	QET41CM-107	100MF	16V	AL E.CAPAC	IT

⚠ :SAFETY PARTS

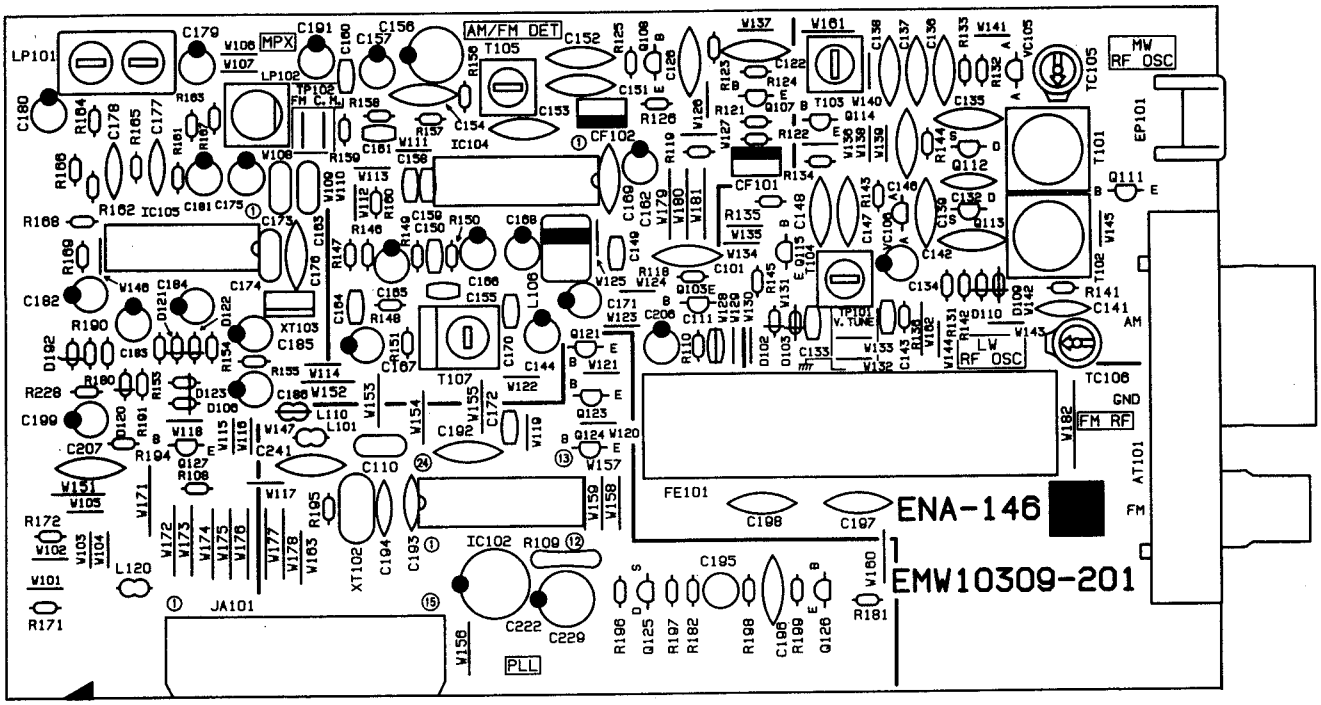
RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	R621	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R622	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R625	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R626	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R803	QRD167J-391	390	1/6W	CARBON RES	IS BS
	R803	QRD167J-391	390	1/6W	CARBON RES	IS EF
	R803	QRD167J-391	390	1/6W	CARBON RES	IS EN
	R803	QRD167J-391	390	1/6W	CARBON RES	IS G
	R803	QRD167J-391	390	1/6W	CARBON RES	IS GI
	R803	QRD167J-391	390	1/6W	CARBON RES	IS VX
	R807	QRD167J-104	100K	1/6W	CARBON RES	IS
	R808	QRD167J-223	22K	1/6W	CARBON RES	IS
	R809	QRD167J-473	47K	1/6W	CARBON RES	IS
	R810	QRD167J-470	47	1/6W	CARBON RES	IS
	R811	QRD167J-102	1K	1/6W	CARBON RES	IS
	R814	QRD167J-103	10K	1/6W	CARBON RES	IS
	R815	QRD167J-103	10K	1/6W	CARBON RES	IS
	R816	QRD167J-103	10K	1/6W	CARBON RES	IS
	R817	QRD167J-103	10K	1/6W	CARBON RES	IS
	R818	QRD167J-103	10K	1/6W	CARBON RES	IS
	R819	QRD167J-102	1K	1/6W	CARBON RES	IS
	R820	QRD167J-102	1K	1/6W	CARBON RES	IS
	R821	QRD167J-102	1K	1/6W	CARBON RES	IS
	R835	QRD167J-471	470	1/6W	CARBON RES	IS BS
	R835	QRD167J-221	220	1/6W	CARBON RES	IS EF
	R835	QRD167J-221	220	1/6W	CARBON RES	IS EN
	R835	QRD167J-221	220	1/6W	CARBON RES	IS G
	R835	QRD167J-221	220	1/6W	CARBON RES	IS GI
	R835	QRD167J-221	220	1/6W	CARBON RES	IS VX
	R838	QRD167J-681	680	1/6W	CARBON	
	R839	QRD167J-431	430	1/6W	CARBON RES	IS
	R840	QRD167J-563	56K	1/6W	CARBON RES	IS
	R841	QRD167J-222	2.2K	1/6W	CARBON RES	IS
	R842	QRD167J-102	1K	1/6W	CARBON RES	IS
	R843	QRD167J-105	1M	1/6W	CARBON	

⚠ :SAFETY PARTS

■ENA-146 □ Tuner PC Board Ass'y

Note : ENA-146 □ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Version	Designated Areas
ENA-146 D	EN EF	Scandinavia Continental Europe
ENA-146 E	BS	the U.K.
ENA-146 F	G	Germany
ENA-146 G	GI	Italy
ENA-146 H	VX	East Europe

TRANSISTORS

△	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q103	2SC461(B,C)	SI.TRANSISTHITACHI	
	Q107	2SC535(B,C)	SI.TRANSIST	
	Q108	2SC461(B,C)	SI.TRANSISTHITACHI	
	Q111	2SD2144S(VW)	SI.TRANSISTROHM	BS
	Q111	2SD2144S(VW)	SI.TRANSISTROHM	EF
	Q111	2SD2144S(VW)	SI.TRANSISTROHM	EN
	Q111	2SD2144S(VW)	SI.TRANSISTROHM	G
	Q111	2SD2144S(VW)	SI.TRANSISTROHM	GI
	Q111	2SD2144S(VW)	SI.TRANSISTROHM	VX
	Q112	2SK301(Q,R)	F.E.T.	
	Q113	2SK301(Q,R)	F.E.T.	BS
	Q113	2SK301(Q,R)	F.E.T.	EF
	Q113	2SK301(Q,R)	F.E.T.	EN
	Q113	2SK301(Q,R)	F.E.T.	G
	Q113	2SK301(Q,R)	F.E.T.	GI
	Q113	2SK301(Q,R)	F.E.T.	VX
	Q114	2SK301(P,Q)	F.E.T. MATSUSHITA	BS
	Q114	2SK301(P,Q)	F.E.T. MATSUSHITA	EF
	Q114	2SK301(P,Q)	F.E.T. MATSUSHITA	EN
	Q114	2SK301(P,Q)	F.E.T. MATSUSHITA	G
	Q114	2SK301(P,Q)	F.E.T. MATSUSHITA	GI
	Q114	2SK301(P,Q)	F.E.T. MATSUSHITA	VX
	Q115	2SK301(P,Q)	F.E.T. MATSUSHITA	BS
	Q115	2SK301(P,Q)	F.E.T. MATSUSHITA	EF
	Q115	2SK301(P,Q)	F.E.T. MATSUSHITA	EN
	Q115	2SK301(P,Q)	F.E.T. MATSUSHITA	G
	Q115	2SK301(P,Q)	F.E.T. MATSUSHITA	GI
	Q115	2SK301(P,Q)	F.E.T. MATSUSHITA	VX
	Q121	DTA144ES	DIGITAL TRAROHM	BS
	Q121	DTA144ES	DIGITAL TRAROHM	EF

△ :SAFETY PARTS

TRANSISTORS

△	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q121	DTA144ES	DIGITAL TRAROHM	EN
	Q121	DTA144ES	DIGITAL TRAROHM	G
	Q121	DTA144ES	DIGITAL TRAROHM	GI
	Q121	DTA144ES	DIGITAL TRAROHM	VX
	Q123	DTA144ES	DIGITAL TRAROHM	
	Q124	DTA144ES	DIGITAL TRAROHM	
	Q125	2SK301(Q2)	F.E.T.	
	Q126	2SC458(D)	SI.TRANSIST	
	Q127	DTC144ES	DIGITAL TRAROHM	

△ :SAFETY PARTS

I. C. S.

△	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC102	LC7218	I.C(DIGI-MOSANYO	
	IC104	LA1266A	I.C(MONO-ANSANYO	
	IC105	LA3401	I.C(MONO-ANSANYO	

△ :SAFETY PARTS

DIODES

△	ITEM	PART NUMBER	DESCRIPTION	AREA
	D102	1SS119	SI.DIODE HITACHI	BS
	D102	1SS119	SI.DIODE HITACHI	EF
	D102	1SS119	SI.DIODE HITACHI	EN
	D102	1SS119	SI.DIODE HITACHI	G
	D102	1SS119	SI.DIODE HITACHI	GI
	D102	1SS119	SI.DIODE HITACHI	VX
	D103	1SS119	SI.DIODE HITACHI	BS
	D103	1SS119	SI.DIODE HITACHI	EF
	D103	1SS119	SI.DIODE HITACHI	EN
	D103	1SS119	SI.DIODE HITACHI	G
	D103	1SS119	SI.DIODE HITACHI	GI
	D103	1SS119	SI.DIODE HITACHI	VX
	D106	1SS119	SI.DIODE HITACHI	
	D109	1SS119	SI.DIODE HITACHI	BS
	D109	1SS119	SI.DIODE HITACHI	EF
	D109	1SS119	SI.DIODE HITACHI	EN
	D109	1SS119	SI.DIODE HITACHI	G
	D109	1SS119	SI.DIODE HITACHI	GI
	D109	1SS119	SI.DIODE HITACHI	VX
	D110	1SS119	SI.DIODE HITACHI	BS

△ :SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R844	QRD167J-105	1M 1/6W CARBON	
	R845	QRD167J-683	68K 1/6W CARBON RES	IS
	R846	QRD167J-222	2.2K 1/6W CARBON RES	IS
	R847	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R848	QRD167J-103	10K 1/6W CARBON RES	IS
	R849	QRD167J-222	2.2K 1/6W CARBON RES	IS
	R863	QRD167J-102	1K 1/6W CARBON RES	IS
	R864	QRD167J-102	1K 1/6W CARBON RES	IS
	R865	QRD167J-102	1K 1/6W CARBON RES	IS
	R866	QRD167J-473	47K 1/6W CARBON RES	IS BS
	R866	QRD167J-473	47K 1/6W CARBON RES	IS EF
	R866	QRD167J-473	47K 1/6W CARBON RES	IS EN
	R866	QRD167J-473	47K 1/6W CARBON RES	IS G
	R866	QRD167J-473	47K 1/6W CARBON RES	IS GI
	R866	QRD167J-473	47K 1/6W CARBON RES	IS VX
	R868	QRD167J-102	1K 1/6W CARBON RES	IS BS
	R868	QRD167J-102	1K 1/6W CARBON RES	IS EF
	R868	QRD167J-102	1K 1/6W CARBON RES	IS EN
	R868	QRD167J-102	1K 1/6W CARBON RES	IS G
	R868	QRD167J-102	1K 1/6W CARBON RES	IS GI
	R868	QRD167J-102	1K 1/6W CARBON RES	IS VX
	R901	QRD167J-105	1M 1/6W CARBON	
	R903	QRD167J-103	10K 1/6W CARBON RES	IS
	R904	QRD167J-471	470 1/6W CARBON RES	IS
	R921	QRD167J-103	10K 1/6W CARBON RES	IS
	R922	QRD167J-332	3.3K 1/6W CARBON RES	IS
	R923	QRD167J-242	2.4K 1/6W CARBON	
	R924	QRD167J-562	5.6K 1/6W CARBON RES	IS
	R925	QRD167J-153	15K 1/6W CARBON RES	IS
	R926	QRD167J-392	3.9K 1/6W CARBON RES	IS
	R935	QRD167J-432	4.3K 1/6W CARBON	
	R936	QRD167J-432	4.3K 1/6W CARBON	
	R937	QRD167J-103	10K 1/6W CARBON RES	IS
	R938	QRD167J-103	10K 1/6W CARBON RES	IS
	R939	QRD167J-913	91K 1/6W CARBON RES	IS
	R940	QRD167J-913	91K 1/6W CARBON RES	IS
	R941	QRD167J-163	16K 1/6W CARBON	
	R942	QRD167J-163	16K 1/6W CARBON	
	R943	QRD167J-822	8.2K 1/6W CARBON RES	IS
	R944	QRD167J-822	8.2K 1/6W CARBON RES	IS
	R951	QRD167J-184	180K 1/6W CARBON	
	R952	QRD167J-224	220K 1/6W CARBON RES	IS
	R953	QRD167J-224	220K 1/6W CARBON RES	IS
	R954	QRD167J-224	220K 1/6W CARBON RES	IS
	R955	QRD167J-683	68K 1/6W CARBON RES	IS
	R956	QRD167J-153	15K 1/6W CARBON RES	IS
	R957	QRD167J-273	27K 1/6W CARBON	
	R958	QRD167J-242	2.4K 1/6W CARBON	
	R959	QVPG401-103	10K VARIABLE R	ES
	R961	QRD167J-103	10K 1/6W CARBON RES	IS
	R962	QRD167J-103	10K 1/6W CARBON RES	IS
	R966	QRD167J-431	430 1/6W CARBON RES	IS
	R967	QRD167J-681	680 1/6W CARBON	
	R968	QRD167J-112	1.1K 1/6W CARBON RES	IS
	R969	QRD167J-222	2.2K 1/6W CARBON RES	IS
	R971	QRD167J-431	430 1/6W CARBON RES	IS
	R972	QRD167J-681	680 1/6W CARBON	
	R973	QRD167J-112	1.1K 1/6W CARBON RES	IS
	R974	QRD167J-222	2.2K 1/6W CARBON RES	IS
	R975	QRD167J-682	6.8K 1/6W CARBON RES	IS
	R981	QRD167J-103	10K 1/6W CARBON RES	IS
	R982	QRD167J-103	10K 1/6W CARBON RES	IS
	R983	QRD167J-103	10K 1/6W CARBON RES	IS
	R984	QRD167J-103	10K 1/6W CARBON RES	IS
	R985	QRD167J-103	10K 1/6W CARBON RES	IS
	R991	QRD167J-103	10K 1/6W CARBON RES	IS
	R992	QRD167J-103	10K 1/6W CARBON RES	IS
	R993	QRD167J-103	10K 1/6W CARBON RES	IS
	R994	QRD167J-103	10K 1/6W CARBON RES	IS
	R995	QRD167J-103	10K 1/6W CARBON RES	IS
	RA802	QRB085J-104	100K 1/8W NETWORK RE	SI
	RA803	QRB135J-104	100K 1/8W NETWORK RE	SI
	RA902	QRB059J-222	2.2K 1/10W NETWORK RE	SI
	RA904	QRB069J-103	10K 1/10W RESISTOR	
	RA905	QRB035J-103	10K 1/8W NETWORK RE	SI
	RA906	QRB045J-103	10K 1/8W NETWORK RE	SI
	RA907	QRB059J-103	10K 1/10W NETWORK RE	SI

⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		QWE370-07RR	VINYL WIRE	
		EWT011-162	TERMINAL WIRE	G
		EWT011-162	TERMINAL WIRE	GI
	J925	EMV7122-103	CONNECT TERMINAL(3PIN)	
	K901	ENZ8101-007	INDUCTOR	G
	K901	ENZ8101-007	INDUCTOR	GI
	S807	ESP0001-023M	TACT SWITCH(TIM/TUM)	
	S808	ESP0001-023M	TACT SWITCH(FM)	
	S809	ESP0001-023M	TACT SWITCH(AM)	
	S810	ESP0001-023M	TACT SWITCH(TIM/TUM DOWN)	
	S811	ESP0001-023M	TACT SWITCH(SLEEP)	
	S812	ESP0001-023M	TACT SWITCH(PRESET CHANNEL DOWN)	
	S813	ESP0001-023M	TACT SWITCH(PRESET CHANNEL UP)	
	S814	ESP0001-023M	TACT SWITCH(REC TIMER)	
	S815	ESP0001-023M	TACT SWITCH(CLOCK AJUST)	
	S816	ESP0001-023M	TACT SWITCH(FM MODE MUTE)	
	S817	ESP0001-023M	TACT SWITCH(TUNER MEMORY)	
	S818	ESP0001-023M	TACT SWITCH(PHONO)	
	S819	ESP0001-023M	TACT SWITCH(LIVE-S)	
	S820	ESP0001-023M	TACT SWITCH(POWER)	
	S921	ESB1100-007	LEAF SWITCH(A PACK)	
	S922	ESB1100-007	LEAF SWITCH(A CrO2)	
	S923	ESB1100-007	LEAF SWITCH(REV REC)	
	S924	ESB1100-007	LEAF SWITCH(B CrO2)	
	S925	ESB1100-007	LEAF SWITCH(B PACK)	
	S926	ESB1100-007	LEAF SWITCH(FWD REC)	
	S966	ESP0001-023M	TACT SWITCH(◀◀)	
	S967	ESP0001-023M	TACT SWITCH(◁)	
	S968	ESP0001-023M	TACT SWITCH(□)	
	S969	ESP0001-023M	TACT SWITCH(▷)	
	S970	ESP0001-023M	TACT SWITCH(▶▶)	
	S971	ESP0001-023M	TACT SWITCH(DOLBY)	
	S972	ESP0001-023M	TACT SWITCH(REV.MODE)	
	S973	ESP0001-023M	TACT SWITCH(CD.D.REC)	
	S974	ESP0001-023M	TACT SWITCH(H.S.D)	
	S975	ESP0001-023M	TACT SWITCH(REC.P)	
	S976	ESP0001-023M	TACT SWITCH(A/B)	
	FL801	ELU0001-153	FLUORESCENT DISPLAY TUBE	
	FS621	E3400-431	FELT SPACER	
	FS625	E3400-431	FELT SPACER	
	FS626	E3400-431	FELT SPACER	
	FS801	E3400-431	FELT SPACER	
	FS985	E3400-431	FELT SPACER	
	FT003	VMZ0087-001	FUSE CLIP	
	FT004	VMZ0087-001	FUSE CLIP	
	FW501	EWR39B-45LST	FLAT WIRE ASSY(9PIN)	
	FW921	EWR34B-16LST	FLAT WIRE ASSY(4PIN)	
	FW922	EWR38B-16LST	FLAT WIRE ASSY(8PIN)	
	FW923	EWR37B-10LST	FLAT WIRE ASSY(7PIN)	
	FW924	EWR37B-10LST	FLAT WIRE ASSY(7PIN)	
	FW925	EWR33B-25LST	FLAT WIRE ASSY(3PIN)	
	FW926	EWR39B-40LST	FLAT WIRE ASSY(9PIN)	
	FW927	EWR37B-20LST	FLAT WIRE ASSY(7PIN)	
	FW928	EWR38B-20LST	FLAT WIRE ASSY(8PIN)	
	FW929	EWR33B-20SST	FLAT WIRE ASSY(3PIN)	
	JA702	EMV7123-040	MALE CONNECTOR(40PIN)	
	JB704	EMV7123-021	CONNECT TERMINAL(21PIN)	BS
	JB704	EMV7123-021	CONNECT TERMINAL(21PIN)	EF
	JB704	EMV7123-021	CONNECT TERMINAL(21PIN)	EN
	JB704	EMV7123-021	CONNECT TERMINAL(21PIN)	G
	JB704	EMV7123-021	CONNECT TERMINAL(21PIN)	GI
	JB704	EMV7123-021	CONNECT TERMINAL(21PIN)	VX
	JT926	EMV7122-103	CONNECT TERMINAL(9PIN)	
	JT927	EMV7122-004	CONNECT TERMINAL(7PIN)	
	JT928	EMV7122-004	CONNECT TERMINAL(8PIN)	
	JT929	EMV7122-004	CONNECT TERMINAL(3PIN)	
	TB001	EMZ4001-001	TAB	
	TB002	EMZ4001-001	TAB	
	TC801	ENZ1003-015	TRIMMER CAPACITOR	
	XT801	ECX4194-304CF	CRYSTAL	
	XT901	ECX0004-194KN	CRYSTAL	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D110	1SS119	SI.DIODE HITACHI	EF
	D110	1SS119	SI.DIODE HITACHI	EN
	D110	1SS119	SI.DIODE HITACHI	G
	D110	1SS119	SI.DIODE HITACHI	GI
	D110	1SS119	SI.DIODE HITACHI	VX
	D120	1SS119	SI.DIODE HITACHI	
	D121	1SS119	SI.DIODE HITACHI	
	D122	1SS119	SI.DIODE HITACHI	
	D123	1SS119	SI.DIODE HITACHI	
	D192	MTZ5.1JC	ZENER DIODEROHM	
	VC105	SVC342(L)	VARI-CAPA DSANYO	
	VC106	SVC342(L)	VARI-CAPA DSANYO	BS
	VC106	SVC342(L)	VARI-CAPA DSANYO	EF
	VC106	SVC342(L)	VARI-CAPA DSANYO	EN
	VC106	SVC342(L)	VARI-CAPA DSANYO	G
	VC106	SVC342(L)	VARI-CAPA DSANYO	GI
	VC106	SVC342(L)	VARI-CAPA DSANYO	VX

⚠ :SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C101	QCF11HP-223	0.022MF 50V CER.CAPACI	TO
	C110	QCZ0202-155	1.5MF 25V CER.RESIST	OR
	C111	QCVB1CM-103	0.01MF 16V CER.CAPACI	TO VX
	C122	QCF11HP-223	0.022MF 50V CER.CAPACI	TO
	C126	QCF11HP-223	0.022MF 50V CER.CAPACI	TO
	C132	QCS21HJ-561	560PF 50V CER.CAPACI	TO
	C133	QCHB1EZ-223	0.022MF 25V CER.RESIST	OR
	C134	QET41EM-106	10MF 25V AL E.CAPAC	IT
	C135	QCC21EM-223	0.022MF 25V CER.CAPACI	TO
	C136	QCT26CH-180	18PF 50V CER.CAPACI	TO
	C137	QCT26CH-221	220PF 50V CER.CAPACI	TO
	C138	QCT26CH-241	240PF 50V CER.CAPACI	TO
	C139	QCC21EM-223	0.022MF 25V CER.CAPACI	TO BS
	C139	QCC21EM-223	0.022MF 25V CER.CAPACI	TO EF
	C139	QCC21EM-223	0.022MF 25V CER.CAPACI	TO EN
	C139	QCC21EM-223	0.022MF 25V CER.CAPACI	TO G
	C139	QCC21EM-223	0.022MF 25V CER.CAPACI	TO GI
	C139	QCC21EM-223	0.022MF 25V CER.CAPACI	TO VX
	C141	QCS21HJ-270	27PF 50V CER.CAPACI	TO BS
	C141	QCS21HJ-270	27PF 50V CER.CAPACI	TO EF
	C141	QCS21HJ-270	27PF 50V CER.CAPACI	TO EN
	C141	QCS21HJ-270	27PF 50V CER.CAPACI	TO G
	C141	QCS21HJ-270	27PF 50V CER.CAPACI	TO GI
	C141	QCS21HJ-270	27PF 50V CER.CAPACI	TO VX
	C142	QCY21HK-272	2700PF 50V CER.CAPACI	TO BS
	C142	QCY21HK-272	2700PF 50V CER.CAPACI	TO EF
	C142	QCY21HK-272	2700PF 50V CER.CAPACI	TO EN
	C142	QCY21HK-272	2700PF 50V CER.CAPACI	TO G
	C142	QCY21HK-272	2700PF 50V CER.CAPACI	TO GI
	C142	QCY21HK-272	2700PF 50V CER.CAPACI	TO VX
	C143	QCHB1EZ-223	0.022MF 25V CER.RESIST	OR BS
	C143	QCHB1EZ-223	0.022MF 25V CER.RESIST	OR EF
	C143	QCHB1EZ-223	0.022MF 25V CER.RESIST	OR EN
	C143	QCHB1EZ-223	0.022MF 25V CER.RESIST	OR G
	C143	QCHB1EZ-223	0.022MF 25V CER.RESIST	OR GI
	C143	QCHB1EZ-223	0.022MF 25V CER.RESIST	OR VX
	C144	QET41EM-106	10MF 25V AL E.CAPAC	IT BS
	C144	QET41EM-106	10MF 25V AL E.CAPAC	IT EF
	C144	QET41EM-106	10MF 25V AL E.CAPAC	IT EN
	C144	QET41EM-106	10MF 25V AL E.CAPAC	IT G
	C144	QET41EM-106	10MF 25V AL E.CAPAC	IT GI
	C144	QET41EM-106	10MF 25V AL E.CAPAC	IT VX
	C146	QCT26CH-680	68PF 50V CER.CAPACI	TO BS
	C146	QCT26CH-680	68PF 50V CER.CAPACI	TO EF
	C146	QCT26CH-680	68PF 50V CER.CAPACI	TO EN
	C146	QCT26CH-680	68PF 50V CER.CAPACI	TO G
	C146	QCT26CH-680	68PF 50V CER.CAPACI	TO GI
	C146	QCT26CH-680	68PF 50V CER.CAPACI	TO VX
	C147	QCT26CH-220	22PF 50V CER.CAPACI	TO BS
	C147	QCT26CH-220	22PF 50V CER.CAPACI	TO EF
	C147	QCT26CH-220	22PF 50V CER.CAPACI	TO EN
	C147	QCT26CH-220	22PF 50V CER.CAPACI	TO G
	C147	QCT26CH-220	22PF 50V CER.CAPACI	TO GI
	C147	QCT26CH-220	22PF 50V CER.CAPACI	TO VX
	C148	QCT26CH-121	120PF 50V CER.CAPACI	TO BS
	C148	QCT26CH-121	120PF 50V CER.CAPACI	TO EF
	C148	QCT26CH-121	120PF 50V CER.CAPACI	TO EN
	C148	QCT26CH-121	120PF 50V CER.CAPACI	TO G
	C148	QCT26CH-121	120PF 50V CER.CAPACI	TO GI
	C148	QCT26CH-121	120PF 50V CER.CAPACI	TO VX
	C149	QCHB1EZ-223	0.022MF 25V CER.RESIST	OR
	C150	QCHB1EZ-223	0.022MF 25V CER.RESIST	OR
	C151	QCF11HP-223	0.022MF 50V CER.CAPACI	TO
	C152	QCF11HP-223	0.022MF 50V CER.CAPACI	TO
	C153	QCC21EM-223	0.022MF 25V CER.CAPACI	TO
	C154	QCF11HP-223	0.022MF 50V CER.CAPACI	TO
	C155	QCHB1EZ-223	0.022MF 25V CER.RESIST	OR
	C156	QET41CM-227	220MF 16V ELECTRO	
	C157	QET41HM-474	0.47MF 50V AL E.CAPAC	IT
	C158	QCBB1HK-101	100PF 50V CER.CAPACI	TO

⚠ :SAFETY PARTS

APACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	C159	QCBB1HK-101	100PF 50V CER.CAPACI	TO
	C160	QCBB1HK-221	220PF 50V CER.CAPACI	TO
	C161	QCHB1EZ-223	0.022MF 25V CER.RESIST	OR
	C162	QET41EM-106	10MF 25V AL E.CAPAC	IT
	C163	QFLB1HJ-102	1000PF 50V MYLAR CAPA	CI BS
	C163	QFLB1HJ-102	1000PF 50V MYLAR CAPA	CI EF
	C163	QFLB1HJ-102	1000PF 50V MYLAR CAPA	CI EN
	C163	QFLB1HJ-102	1000PF 50V MYLAR CAPA	CI G
	C163	QFLB1HJ-102	1000PF 50V MYLAR CAPA	CI GI
	C163	QFLB1HJ-102	1000PF 50V MYLAR CAPA	CI VX
	C164	QCHB1EZ-223	0.022MF 25V CER.RESIST	OR
	C165	QET41HM-474	0.47MF 50V AL E.CAPAC	IT
	C166	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C167	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C168	QET41HM-475	4.7MF 50V ELECTRO	
	C169	QCF11HP-223	0.022MF 50V CER.CAPACI	TO
	C170	QCHB1EZ-223	0.022MF 25V CER.RESIST	OR
	C171	QET41EM-106	10MF 25V AL E.CAPAC	IT
	C172	QCVB1CM-103	0.01MF 16V CER.CAPACI	TO
	C173	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	CI BS
	C173	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	CI EF
	C173	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	CI EN
	C173	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	CI G
	C173	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	CI GI
	C173	QFLB1HJ-223	0.022MF 50V MYLAR CAPA	CI VX
	C174	QFLB1HJ-473	0.047MF 50V MYLAR CAPA	CI
	C175	QET41EM-106	10MF 25V AL E.CAPAC	IT
	C176	QCY41HK-102	1000PF 50V CER.CAPACI	TO
	C177	QCS21HJ-821	820PF 50V CER.CAPACI	TO BS
	C177	QCS21HJ-561	560PF 50V CER.CAPACI	TO EF
	C177	QCS21HJ-561	560PF 50V CER.CAPACI	TO EN
	C177	QCS21HJ-561	560PF 50V CER.CAPACI	TO G
	C177	QCS21HJ-561	560PF 50V CER.CAPACI	TO GI
	C177	QCS21HJ-561	560PF 50V CER.CAPACI	TO VX
	C178	QCS21HJ-821	820PF 50V CER.CAPACI	TO BS
	C178	QCS21HJ-561	560PF 50V CER.CAPACI	TO EF
	C178	QCS21HJ-561	560PF 50V CER.CAPACI	TO EN
	C178	QCS21HJ-561	560PF 50V CER.CAPACI	TO G
	C178	QCS21HJ-561	560PF 50V CER.CAPACI	TO GI
	C178	QCS21HJ-561	560PF 50V CER.CAPACI	TO VX
	C179	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C180	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C181	QET41EM-106	10MF 25V AL E.CAPAC	IT
	C182	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C183	QET41HM-105	1MF 50V E.CAPACITO	R
	C184	QET41HM-105	1MF 50V E.CAPACITO	R
	C185	QETB1HM-225	2.2MF 50V E.CAPACITO	R
	C186	QET41HM-474	0.47MF 50V AL E.CAPAC	IT
	C191	QET41HM-475	4.7MF 50V ELECTRO	
	C192	QCC21EM-473	0.047MF 25V CER.CAPACI	TO
	C193	QCS21HJ-180	18PF 50V CER.CAPACI	TO
	C194	QCS21HJ-180	18PF 50V CER.CAPACI	TO
	C195	QEN41HM-474	0.47MF 50V NON POLE	
	C196	QCY41HK-102	1000PF 50V CER.CAPACI	TO
	C197	QCF11HP-223	0.022MF 50V CER.CAPACI	TO
	C198	QCF11HP-103	0.01MF 50V CER.CAPACI	TO
	C199	QET41HM-475	4.7MF 50V ELECTRO	
	C206	QET41HM-476	47MF 50V ELECTRO	G
	C206	QET41HM-476	47MF 50V ELECTRO	GI
	C207	QCF11HP-223	0.022MF 50V CER.CAPACI	TO
	C222	QET41CM-477	470MF 16V ELECTRO	
	C229	QET41CM-227	220MF 16V ELECTRO	
	C241	QCF11HP-223	0.022MF 50V CER.CAPACI	TO

⚠ :SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R108	QRD167J-103	10K 1/6W CARBON RES	IS
⚠	R109	QRZ0077-680	68 1/4W FUSIBLE RE	SI BS
⚠	R109	QRZ0077-680	68 1/4W FUSIBLE RE	SI EF
⚠	R109	QRZ0077-680	68 1/4W FUSIBLE RE	SI EN
⚠	R109	QRZ0077-680	68 1/4W FUSIBLE RE	SI G
⚠	R109	QRZ0077-680	68 1/4W FUSIBLE RE	SI GI
⚠	R109	QRZ0077-680	68 1/4W FUSIBLE RE	SI VX
	R110	QRD167J-223	22K 1/6W CARBON RES	IS VX
	R118	QRD167J-332	3.3K 1/6W CARBON RES	IS
	R119	QRD167J-221	220 1/6W CARBON RES	IS
	R121	QRD167J-391	390 1/6W CARBON RES	IS
	R122	QRD161J-272	2.7K 1/6W CARBON RES	IS
	R123	QRD167J-102	1K 1/6W CARBON RES	IS
	R124	QRD167J-681	680 1/6W CARBON	
	R125	QRD167J-332	3.3K 1/6W CARBON RES	IS
	R126	QRD167J-221	220 1/6W CARBON RES	IS
	R131	QRD167J-331	330 1/6W CARBON	
	R132	QRD167J-103	10K 1/6W CARBON RES	IS
	R133	QRD167J-473	47K 1/6W CARBON RES	IS
	R134	QRD167J-103	10K 1/6W CARBON RES	IS BS
	R134	QRD167J-103	10K 1/6W CARBON RES	IS EF
	R134	QRD167J-103	10K 1/6W CARBON RES	IS EN
	R134	QRD167J-103	10K 1/6W CARBON RES	IS G
	R134	QRD167J-103	10K 1/6W CARBON RES	IS GI
	R134	QRD167J-103	10K 1/6W CARBON RES	IS VX

⚠ :SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R135	QRD167J-470	47 1/6W CARBON RES	IS
	R136	QRD167J-103	10K 1/6W CARBON RES	IS
	R141	QRD167J-472	4.7K 1/6W CARBON RES	IS BS
	R141	QRD167J-472	4.7K 1/6W CARBON RES	IS EF
	R141	QRD167J-472	4.7K 1/6W CARBON RES	IS EN
	R141	QRD167J-472	4.7K 1/6W CARBON RES	IS G
	R141	QRD167J-472	4.7K 1/6W CARBON RES	IS GI
	R141	QRD167J-472	4.7K 1/6W CARBON RES	IS VX
	R142	QRD167J-331	330 1/6W CARBON	BS
	R142	QRD167J-331	330 1/6W CARBON	EF
	R142	QRD167J-331	330 1/6W CARBON	EN
	R142	QRD167J-331	330 1/6W CARBON	G
	R142	QRD167J-331	330 1/6W CARBON	GI
	R142	QRD167J-331	330 1/6W CARBON	VX
	R143	QRD167J-103	10K 1/6W CARBON RES	IS BS
	R143	QRD167J-103	10K 1/6W CARBON RES	IS EF
	R143	QRD167J-103	10K 1/6W CARBON RES	IS EN
	R143	QRD167J-103	10K 1/6W CARBON RES	IS G
	R143	QRD167J-103	10K 1/6W CARBON RES	IS GI
	R143	QRD167J-103	10K 1/6W CARBON RES	IS VX
	R144	QRD167J-473	47K 1/6W CARBON RES	IS BS
	R144	QRD167J-473	47K 1/6W CARBON RES	IS EF
	R144	QRD167J-473	47K 1/6W CARBON RES	IS EN
	R144	QRD167J-473	47K 1/6W CARBON RES	IS G
	R144	QRD167J-473	47K 1/6W CARBON RES	IS GI
	R144	QRD167J-473	47K 1/6W CARBON RES	IS VX
	R145	QRD167J-103	10K 1/6W CARBON RES	IS BS
	R145	QRD167J-103	10K 1/6W CARBON RES	IS EF
	R145	QRD167J-103	10K 1/6W CARBON RES	IS EN
	R145	QRD167J-103	10K 1/6W CARBON RES	IS G
	R145	QRD167J-103	10K 1/6W CARBON RES	IS GI
	R145	QRD167J-103	10K 1/6W CARBON RES	IS VX
	R146	QRD167J-560	56 1/6W CARBON RES	IS
	R147	QRD167J-103	10K 1/6W CARBON RES	IS
	R148	QRD167J-103	10K 1/6W CARBON RES	IS
	R149	QRD167J-223	22K 1/6W CARBON RES	IS BS
	R149	QRD167J-223	22K 1/6W CARBON RES	IS EF
	R149	QRD167J-223	22K 1/6W CARBON RES	IS EN
	R149	QRD167J-273	27K 1/6W CARBON	G
	R149	QRD167J-273	27K 1/6W CARBON	GI
	R149	QRD167J-153	15K 1/6W CARBON RES	IS VX
	R150	QRD167J-103	10K 1/6W CARBON RES	IS
	R151	QRD167J-222	2.2K 1/6W CARBON RES	IS
	R153	QRD167J-103	10K 1/6W CARBON RES	IS
	R154	QRD167J-103	10K 1/6W CARBON RES	IS
	R155	QRD167J-562	5.6K 1/6W CARBON RES	IS
	R156	QRD167J-822	8.2K 1/6W CARBON RES	IS
	R157	QRD167J-103	10K 1/6W CARBON RES	IS
	R158	QRD167J-273	27K 1/6W CARBON	BS
	R158	QRD167J-273	27K 1/6W CARBON	EF
	R158	QRD167J-273	27K 1/6W CARBON	EN
	R158	QRD167J-273	27K 1/6W CARBON	G
	R158	QRD167J-273	27K 1/6W CARBON	GI
	R158	QRD167J-273	27K 1/6W CARBON	VX
	R159	QRD167J-561	560 1/6W CARBON	
	R160	QRD167J-102	1K 1/6W CARBON RES	IS BS
	R160	QRD167J-103	10K 1/6W CARBON RES	IS EF
	R160	QRD167J-103	10K 1/6W CARBON RES	IS EN
	R160	QRD167J-103	10K 1/6W CARBON RES	IS G
	R160	QRD167J-103	10K 1/6W CARBON RES	IS GI
	R160	QRD167J-103	10K 1/6W CARBON RES	IS VX
	R161	QRD167J-683	68K 1/6W CARBON RES	IS BS
	R161	QRD167J-104	100K 1/6W CARBON RES	IS EF
	R161	QRD167J-104	100K 1/6W CARBON RES	IS EN
	R161	QRD167J-104	100K 1/6W CARBON RES	IS G
	R161	QRD167J-104	100K 1/6W CARBON RES	IS GI
	R161	QRD167J-104	100K 1/6W CARBON RES	IS VX
	R162	QRD167J-683	68K 1/6W CARBON RES	IS BS
	R162	QRD167J-104	100K 1/6W CARBON RES	IS EF
	R162	QRD167J-104	100K 1/6W CARBON RES	IS EN
	R162	QRD167J-104	100K 1/6W CARBON RES	IS G
	R162	QRD167J-104	100K 1/6W CARBON RES	IS GI
	R162	QRD167J-104	100K 1/6W CARBON RES	IS VX
	R163	QRD167J-332	3.3K 1/6W CARBON RES	IS BS
	R163	QRD167J-332	3.3K 1/6W CARBON RES	IS EF
	R163	QRD167J-332	3.3K 1/6W CARBON RES	IS EN
	R163	QRD167J-332	3.3K 1/6W CARBON RES	IS G
	R163	QRD167J-332	3.3K 1/6W CARBON RES	IS GI
	R163	QRD167J-332	3.3K 1/6W CARBON RES	IS VX
	R164	QRD167J-332	3.3K 1/6W CARBON RES	IS BS
	R164	QRD167J-332	3.3K 1/6W CARBON RES	IS EF
	R164	QRD167J-332	3.3K 1/6W CARBON RES	IS EN
	R164	QRD167J-332	3.3K 1/6W CARBON RES	IS G
	R164	QRD167J-332	3.3K 1/6W CARBON RES	IS GI
	R164	QRD167J-332	3.3K 1/6W CARBON RES	IS VX
	R165	QRD167J-274	270K 1/6W CARBON	BS
	R165	QRD167J-274	270K 1/6W CARBON	EF
	R165	QRD167J-274	270K 1/6W CARBON	EN
	R165	QRD167J-274	270K 1/6W CARBON	G
	R165	QRD167J-274	270K 1/6W CARBON	GI
	R165	QRD167J-274	270K 1/6W CARBON	VX
	R166	QRD167J-274	270K 1/6W CARBON	BS
	R166	QRD167J-274	270K 1/6W CARBON	EF
	R166	QRD167J-274	270K 1/6W CARBON	EN
	R166	QRD167J-274	270K 1/6W CARBON	G
	R166	QRD167J-274	270K 1/6W CARBON	GI
	R166	QRD167J-274	270K 1/6W CARBON	VX
	R167	QRD167J-473	47K 1/6W CARBON RES	IS BS
	R167	QRD167J-473	47K 1/6W CARBON RES	IS EF
	R167	QRD167J-473	47K 1/6W CARBON RES	IS EN

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R167	QRD167J-473	47K 1/6W CARBON RES	IS G
	R167	QRD167J-473	47K 1/6W CARBON RES	IS GI
	R167	QRD167J-473	47K 1/6W CARBON RES	IS VX
	R168	QRD167J-103	10K 1/6W CARBON RES	IS
	R169	QRD167J-103	10K 1/6W CARBON RES	IS
	R171	QRD167J-682	6.8K 1/6W CARBON RES	IS
	R172	QRD167J-682	6.8K 1/6W CARBON RES	IS
	R180	QRD167J-103	10K 1/6W CARBON RES	IS
	R181	QRD167J-222	2.2K 1/6W CARBON RES	IS
	R182	QRD167J-181	180 1/6W CARBON	
	R190	QRD167J-103	10K 1/6W CARBON RES	IS
	R191	QRD167J-562	5.6K 1/6W CARBON RES	IS
	R194	QRD167J-103	10K 1/6W CARBON RES	IS
	R195	QRD167J-473	47K 1/6W CARBON RES	IS
	R196	QRD167J-222	2.2K 1/6W CARBON RES	IS BS
	R196	QRD167J-222	2.2K 1/6W CARBON RES	IS EF
	R196	QRD167J-222	2.2K 1/6W CARBON RES	IS EN
	R196	QRD167J-222	2.2K 1/6W CARBON RES	IS G
	R196	QRD167J-222	2.2K 1/6W CARBON RES	IS GI
	R196	QRD167J-222	2.2K 1/6W CARBON RES	IS VX
	R197	QRD167J-222	2.2K 1/6W CARBON RES	IS
	R198	QRD167J-822	8.2K 1/6W CARBON RES	IS BS
	R198	QRD167J-822	8.2K 1/6W CARBON RES	IS EF
	R198	QRD167J-822	8.2K 1/6W CARBON RES	IS EN
	R198	QRD167J-822	8.2K 1/6W CARBON RES	IS G
	R198	QRD167J-822	8.2K 1/6W CARBON RES	IS GI
	R198	QRD167J-822	8.2K 1/6W CARBON RES	IS VX
	R199	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R228	QRD167J-222	2.2K 1/6W CARBON RES	IS

⚠ : SAFETY PARTS

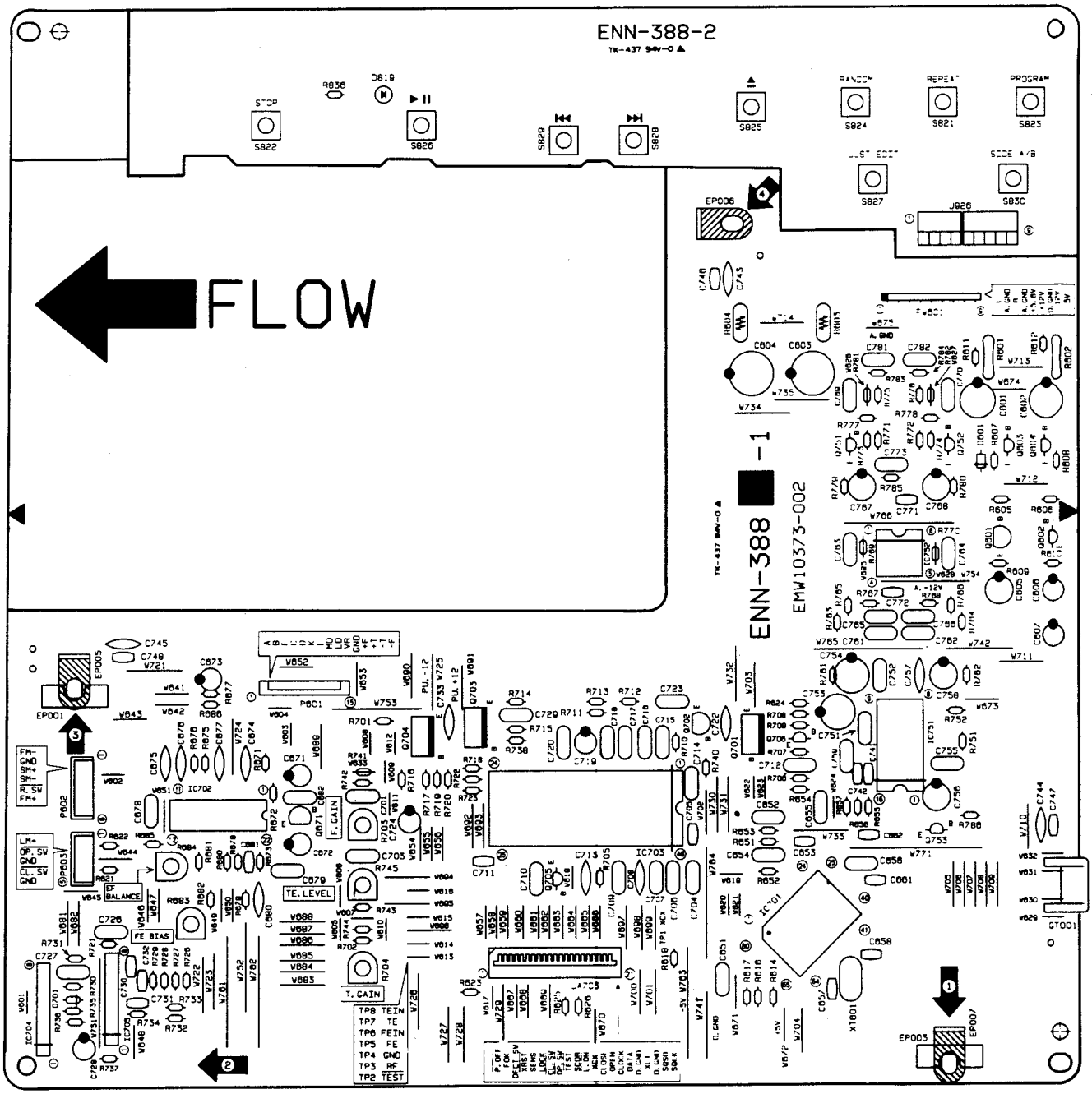
OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	L101	EQL4007-1R0T	INDUCTOR	
	L106	EQL3001-102K	INDUCTOR	
	L110	EQL4004-100	INDUCTOR	G
	L110	EQL4004-100	INDUCTOR	GI
	L120	EQL4007-1R0T	INDUCTOR	
	T101	EQR1111-014	RF COIL	
	T102	EQR1111-005	RF COIL	BS
	T102	EQR1111-005	RF COIL	EF
	T102	EQR1111-005	RF COIL	EN
	T102	EQR1111-005	RF COIL	G
	T102	EQR1111-005	RF COIL	GI
	T102	EQR1111-005	RF COIL	VX
	T103	EQR1207-017	RF COIL	
	T104	EQR1307-010	RF COIL	BS
	T104	EQR1307-010	RF COIL	EF
	T104	EQR1307-010	RF COIL	EN
	T104	EQR1307-010	RF COIL	G
	T104	EQR1307-010	RF COIL	GI
	T104	EQR1307-010	RF COIL	VX
	T105	EQT2140-017	I.F.TRANSFORMER	
	T107	ECB1560-010	CERAMIC FILTER	
	AT101	EMB41YV-301K	ANTENNA TERMINAL	
	CF101	ECB2118-007R	CERAMIC FILTER	BS
	CF101	ECB2118-007R	CERAMIC FILTER	EF
	CF101	ECB2118-007R	CERAMIC FILTER	EN
	CF101	ECB2118-007R	CERAMIC FILTER	G
	CF101	ECB2118-007R	CERAMIC FILTER	GI
	CF101	ECB2118-007R	CERAMIC FILTER	VX
	CF102	ECB2118-007R	CERAMIC FILTER	BS
	CF102	ECB2118-007R	CERAMIC FILTER	EF
	CF102	ECB2118-007R	CERAMIC FILTER	EN
	CF102	ECB2118-007R	CERAMIC FILTER	G
	CF102	ECB2118-007R	CERAMIC FILTER	GI
	CF102	ECB2118-007R	CERAMIC FILTER	VX
	EP102	E308655-001	SHIELD BRACKET	
	FE101	EAF2203-001	FRONT END	BS
	FE101	EAF2203-001	FRONT END	EF
	FE101	EAF2203-001	FRONT END	EN
	FE101	EAF2203-003	UHF TUNER	G
	FE101	EAF2203-003	UHF TUNER	GI
	FE101	EAF2302-001	FRONT END	VX
	JA101	EMV7140-L15R	CONNECT TERMINAL(15PIN)	
	LP101	EQF0101-002	LOWPASS FILTER	
	LP102	EQF0102-001	LOWPASS FILTER	G
	LP102	EQF0102-001	LOWPASS FILTER	GI
	TC105	ENZ1003-006	TRIMMER CAPACITOR	
	TC106	ENZ1003-006	TRIMMER CAPACITOR	BS
	TC106	ENZ1003-006	TRIMMER CAPACITOR	EF
	TC106	ENZ1003-006	TRIMMER CAPACITOR	EN
	TC106	ENZ1003-006	TRIMMER CAPACITOR	G
	TC106	ENZ1003-006	TRIMMER CAPACITOR	GI
	TC106	ENZ1003-006	TRIMMER CAPACITOR	VX
	XT102	ECX0007-200KC	CRYSTAL	
	XT103	ECX0000-456KR	CERAMIC RESONATOR	

⚠ : SAFETY PARTS

■ENN-388□CD PC Board Ass'y

Note : ENN-388□ varies according to the areas employed. See note (1) when placing an order.



Note (1)

PC Board Ass'y	Version	Designated Areas
ENN-388 [A]	BS EN EF VX	the U.K. Scandinavia Continental Europe East Europe
ENN-388 [B]	G GI	Germany Italy

TRANSISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	Q601	2SA934(Q,R)	SI.TRANSISTROHM	
	Q602	2SC1685(R,S)	SI.TRANSISTMATSUSHITA	
	Q603	DTC144ES	DIGITAL TRAROHM	
	Q604	DTA144WS	DIGITAL TRAROHM	
	Q671	2SA934(Q,R)	SI.TRANSISTROHM	
	Q701	2SD2037(E,F)	SI.TRANSISTROHM	
	Q702	2SA934(Q,R)	SI.TRANSISTROHM	
	Q703	2SD2037(E,F)	SI.TRANSISTROHM	
	Q704	2SB1357(E,F)	SI.TRANSISTROHM	
	Q705	DTC144ES	DIGITAL TRAROHM	
	Q706	2SC1685(R,S)	SI.TRANSISTMATSUSHITA	
	Q751	2SC1685(R,S)	SI.TRANSISTMATSUSHITA	
	Q752	2SC1685(R,S)	SI.TRANSISTMATSUSHITA	
	Q753	DTA144ES	DIGITAL TRAROHM	

⚠ : SAFETY PARTS

I. C. S.

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	IC701	CXD2500BQ	I.C(DIGI-MO	
	IC702	CXA1571S-S	I.C.	BS
	IC702	CXA1571S-S	I.C.	EF
	IC702	CXA1571S-S	I.C.	EN
	IC702	CXA1571S-S	I.C.	G
	IC702	CXA1571S-S	I.C.	GI
	IC702	CXA1571S-S	I.C.	VX
	IC703	CXA1372S-S	I.C.	BS
	IC703	CXA1372S-S	I.C.	EF
	IC703	CXA1372S-S	I.C.	EN
	IC703	CXA1372S-S	I.C.	G
	IC703	CXA1372S-S	I.C.	GI
	IC703	CXA1372S-S	I.C.	VX
	IC704	STA341M(A)	TRANSISTOR SANKEN	
	IC705	M5218AL	I.C(MONO-ANMITSUBISHI	
	IC751	UPD6376CX	I.C(DIGI-MONEC	
	IC752	BA15218	I.C(MONO-ANROHM	

⚠ : SAFETY PARTS

DIODES

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	D601	1SR139-200	SI.DIODE ROHM	
	D701	1SS119	SI.DIODE HITACHI	
	D819	SLR-342MCA47	L.E.D. ROHM	

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C601	QET41CM-476	47MF	16V	AL E.CAPAC	IT
	C602	QET41CM-476	47MF	16V	AL E.CAPAC	IT
	C603	QETB1CM-108M	1000MF	16V	ELECTRO	
	C604	QETB1CM-108M	1000MF	16V	ELECTRO	
	C605	QETB0JM-227	220MF	6.3V	E.CAPACITO	R
	C606	QETC0JM-107M	100MF	6.3V	ELECTRO	
	C607	QETB1HM-106	10MF	50V	E.CAPACITO	R
	C651	QCZ0202-155	1.5MF	25V	CER.RESIST	OR
	C652	QFLB1HJ-473	0.047MF	50V	MYLAR CAPA	CI
	C653	QCHB1EZ-223	0.022MF	25V	CER.RESIST	OR
	C654	QFLB1HJ-152	1500PF	50V	MYLAR CAPA	CI
	C655	QFLB1HJ-102	1000PF	50V	MYLAR CAPA	CI
	C656	QCZ0202-155	1.5MF	25V	CER.RESIST	OR
	C657	QCT30CH-100	10PF	50V	CER.CAPACI	TO
	C658	QCT30CH-100	10PF	50V	CER.CAPACI	TO

⚠ : SAFETY PARTS

CAPACITORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
	C671	QET41AM-107	100MF	10V	AL E.CAPAC	IT
	C673	QET41AM-476	47MF	10V	ELECTRO	
	C674	QCS21HJ-100	10PF	50V	CER.CAPACI	TO
	C675	QCS21HJ-820	82PF	50V	CER.CAPACI	TO
	C676	QCS11HJ-101	100PF	50V	CER.CAPACI	TO
	C677	QCS21HJ-100	10PF	50V	CER.CAPACI	TO
	C678	QCZ0202-155	1.5MF	25V	CER.RESIST	OR
	C679	QCZ0202-155	1.5MF	25V	CER.RESIST	OR
	C680	QCS21HJ-220	22PF	50V	CER.CAPACI	TO
	C681	QCHB1EZ-223	0.022MF	25V	CER.RESIST	OR
	C701	QFLB1HJ-122	1200PF	50V	MYLAR CAPA	CI
	C703	QFLB1HJ-222	2200PF	50V	MYLAR CAPA	CI
	C704	QFLB1HJ-222	2200PF	50V	MYLAR CAPA	CI
	C705	QCHB1EZ-223	0.022MF	25V	CER.RESIST	OR
	C706	QFLB1HJ-333	0.033MF	50V	MYLAR CAPA	CI
	C707	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI
	C708	QCF11HP-223	0.022MF	50V	CER.CAPACI	TO
	C709	QFLB1HJ-333	0.033MF	50V	MYLAR CAPA	CI
	C710	QCZ0202-155	1.5MF	25V	CER.RESIST	OR
	C711	QCHB1EZ-223	0.022MF	25V	CER.RESIST	OR
	C712	QFLB1HJ-104	0.1MF	50V	MYLAR CAPA	CI
	C713	QCS11HJ-471	470PF	50V	CER.CAPACI	TO
	C714	QFLB1HJ-104	0.1MF	50V	MYLAR CAPA	CI
	C715	QFLB1HJ-333	0.033MF	50V	MYLAR CAPA	CI
	C716	QFLB1HJ-473	0.047MF	50V	MYLAR CAPA	CI
	C717	QFLB1HJ-473	0.047MF	50V	MYLAR CAPA	CI
	C718	QFLB1HJ-473	0.047MF	50V	MYLAR CAPA	CI
	C719	QETB1HM-106	10MF	50V	E.CAPACITO	R
	C720	QFLB1HJ-104	0.1MF	50V	MYLAR CAPA	CI
	C722	QCF11HP-223	0.022MF	50V	CER.CAPACI	TO
	C723	QFLB1HJ-333	0.033MF	50V	MYLAR CAPA	CI
	C724	QETB1HM-106	10MF	50V	E.CAPACITO	R
	C726	QFLB1HJ-223	0.022MF	50V	MYLAR CAPA	CI
	C727	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI
	C728	QET41HM-475	4.7MF	50V	ELECTRO	
	C729	QFLB1HJ-393	0.039MF	50V	MYLAR CAPA	CI
	C730	QCHB1EZ-223	0.022MF	25V	CER.RESIST	OR
	C731	QCHB1EZ-223	0.022MF	25V	CER.RESIST	OR
	C732	QCBB1HK-681	680PF	50V	C.CAPACITO	R
	C733	QCF11HP-223	0.022MF	50V	CER.CAPACI	TO
	C751	QFLB1HJ-104	0.1MF	50V	MYLAR CAPA	CI
	C752	QFLB1HJ-104	0.1MF	50V	MYLAR CAPA	CI
	C753	QET41EM-107	100MF	25V	ELECTRO	
	C754	QET41EM-107	100MF	25V	ELECTRO	
	C755	QCZ0202-155	1.5MF	25V	CER.RESIST	OR
	C756	QET41HM-476	47MF	50V	ELECTRO	
	C757	QCF11HP-223	0.022MF	50V	CER.CAPACI	TO
	C758	QET41HM-476	47MF	50V	ELECTRO	
	C759	QCZ0202-155	1.5MF	25V	CER.RESIST	OR
	C761	QFLB1HJ-562	5600PF	50V	MYLAR CAPA	CI
	C762	QFLB1HJ-562	5600PF	50V	MYLAR CAPA	CI
	C763	QFLB1HJ-153	0.015MF	50V	MYLAR CAPA	CI
	C764	QFLB1HJ-153	0.015MF	50V	MYLAR CAPA	CI
	C765	QFLB1HJ-821	820PF	50V	MYLAR CAPA	CI
	C766	QFLB1HJ-821	820PF	50V	MYLAR CAPA	CI
	C767	QET41HM-476	47MF	50V	ELECTRO	
	C768	QET41HM-476	47MF	50V	ELECTRO	
	C769	QFLB1HJ-683	0.068MF	50V	MYLAR CAPA	CI
	C770	QFLB1HJ-683	0.068MF	50V	MYLAR CAPA	CI
	C771	QCHB1EZ-223	0.022MF	25V	CER.RESIST	OR
	C772	QCHB1EZ-223	0.022MF	25V	CER.RESIST	OR
	C773	QFLB1HJ-103	0.01MF	50V	MYLAR CAPA	CI

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION			AREA
⚠	R603	PTH61G25AR4R7M			FUSIBLE RE	SI
⚠	R604	PTH61G25AR4R7M			FUSIBLE RE	SI
	R605	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R606	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R607	QRD167J-471	470	1/6W	CARBON RES	IS
	R608	QRD167J-182	1.8K	1/6W	CARBON RES	IS
	R609	QRD167J-103	10K	1/6W	CARBON RES	IS
	R610	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R611	QRD167J-221	220	1/6W	CARBON RES	IS
	R612	QRD167J-221	220	1/6W	CARBON RES	IS
	R614	QRD167J-102	1K	1/6W	CARBON RES	IS
	R616	QRD167J-102	1K	1/6W	CARBON RES	IS
	R617	QRD167J-391	390	1/6W	CARBON RES	IS
	R618	QRD167J-102	1K	1/6W	CARBON RES	IS
	R623	QRD167J-473	47K	1/6W	CARBON RES	IS
	R624	QRD167J-472	4.7K	1/6W	CARBON RES	IS
	R651	QRD167J-332	3.3K	1/6W	CARBON RES	IS
	R652	QRD167J-682	6.8K	1/6W	CARBON RES	IS
	R653	QRD167J-103	10K	1/6W	CARBON RES	IS
	R654	QRD167J-103	10K	1/6W	CARBON RES	IS
	R655	QRD167J-561	560	1/6W	CARBON	
	R656	QRD167J-561	560	1/6W	CARBON	
	R657	QRD167J-561	560	1/6W	CARBON	
	R671	QRD161J-100	10	1/6W	CARBON RES	IS
	R672	QRD167J-120	12	1/6W	CARBON	

⚠ : SAFETY PARTS

RESISTORS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
	R673	QRD167J-102	1K 1/6W CARBON RES	IS
	R675	QRD167J-183	18K 1/6W CARBON	
	R676	QRD167J-183	18K 1/6W CARBON	
	R677	QRD167J-121	120 1/6W CARBON RES	IS
	R678	QRD167J-103	10K 1/6W CARBON RES	IS
	R679	QRD167J-332	3.3K 1/6W CARBON RES	IS
	R680	QRD167J-822	8.2K 1/6W CARBON RES	IS
	R681	QRD167J-103	10K 1/6W CARBON RES	IS
	R684	QVPA601-203A	20K VARIABLE R	ES
	R685	QRD167J-103	10K 1/6W CARBON RES	IS
	R686	QRD167J-910	91 1/6W CARBON	
	R701	QRD167J-153	15K 1/6W CARBON RES	IS
	R705	QRD167J-102	1K 1/6W CARBON RES	IS
	R706	QRD167J-104	100K 1/6W CARBON RES	IS
	R707	QRD167J-103	10K 1/6W CARBON RES	IS
	R708	QRD167J-273	27K 1/6W CARBON	
	R709	QRD167J-273	27K 1/6W CARBON	
	R710	QRD167J-224	220K 1/6W CARBON RES	IS
	R711	QRD167J-2R2	2.2 1/6W CARBON RES	IS
	R712	QRD167J-164	160K 1/6W CARBON	
	R713	QRD167J-134	130K 1/6W CARBON RES	IS
	R714	QRD167J-2R2	2.2 1/6W CARBON RES	IS
	R715	QRD167J-224	220K 1/6W CARBON RES	IS
	R716	QRD167J-333	33K 1/6W CARBON	
	R717	QRD167J-103	10K 1/6W CARBON RES	IS
	R718	QRD167J-514	510K 1/6W CARBON	
	R719	QRD167J-2R2	2.2 1/6W CARBON RES	IS
	R720	QRD167J-123	12K 1/6W CARBON RES	IS
	R721	QRD167J-333	33K 1/6W CARBON	
	R722	QRD167J-124	120K 1/6W CARBON	
	R723	QRD167J-472	4.7K 1/6W CARBON RES	IS
	R726	QRD167J-203	20K 1/6W CARBON	
	R727	QRD167J-273	27K 1/6W CARBON	
	R728	QRD167J-752	7.5K 1/6W CARBON	
	R729	QRD167J-752	7.5K 1/6W CARBON	
	R730	QRD167J-333	33K 1/6W CARBON	
	R731	QRD167J-2R2	2.2 1/6W CARBON RES	IS
	R732	QRD167J-513	51K 1/6W CARBON	
	R733	QRD167J-513	51K 1/6W CARBON	
	R734	QRD167J-683	68K 1/6W CARBON RES	IS
	R735	QRD167J-683	68K 1/6W CARBON RES	IS
	R736	QRD167J-514	510K 1/6W CARBON	
	R737	QRD167J-221	220 1/6W CARBON RES	IS
	R738	QRD167J-823	82K 1/6W CARBON RES	IS
	R740	QRD167J-275	2.7M 1/6W CARBON RES	IS
	R742	QRD167J-123	12K 1/6W CARBON RES	IS
	R743	QRD167J-822	8.2K 1/6W CARBON RES	IS
	R744	QRD167J-103	10K 1/6W CARBON RES	IS
	R745	QVPA601-203A	20K VARIABLE R	ES
	R751	QRD161J-330	33 1/6W CARBON RES	IS
	R752	QRD161J-330	33 1/6W CARBON RES	IS
	R761	QRD167J-102	1K 1/6W CARBON RES	IS
	R762	QRD167J-102	1K 1/6W CARBON RES	IS
	R763	QRD167J-122	1.2K 1/6W CARBON	
	R764	QRD167J-122	1.2K 1/6W CARBON	
	R765	QRD167J-182	1.8K 1/6W CARBON RES	IS
	R766	QRD167J-182	1.8K 1/6W CARBON RES	IS
	R771	QRD167J-273	27K 1/6W CARBON	
	R772	QRD167J-273	27K 1/6W CARBON	
	R773	QRD167J-561	560 1/6W CARBON	
	R774	QRD167J-561	560 1/6W CARBON	
	R775	QRD167J-221	220 1/6W CARBON RES	IS
	R776	QRD167J-221	220 1/6W CARBON RES	IS
	R777	QRD167J-104	100K 1/6W CARBON RES	IS
	R778	QRD167J-104	100K 1/6W CARBON RES	IS
	R779	QRD167J-392	3.9K 1/6W CARBON RES	IS
	R780	QRD167J-392	3.9K 1/6W CARBON RES	IS
	R785	QRD167J-514	510K 1/6W CARBON	
	R786	QRD167J-134	130K 1/6W CARBON RES	IS
	R836	QRD167J-221	220 1/6W CARBON RES	IS

⚠ : SAFETY PARTS

OTHERS

⚠	ITEM	PART NUMBER	DESCRIPTION	AREA
		E70225-002	EARTH PLATE	
	P601	EMV7144-015	F.P.C.PLUG(15PIN)	
	P602	EMV5109-006A	CONNECT TERMINAL(6PIN)	
	P603	EMV5109-005A	MALE CONNECTOR(5PIN)	
	S821	ESP0001-023M	TACT SWITCH(REPEAT)	
	S822	ESP0001-023M	TACT SWITCH(STOP/CLEAR)	
	S823	ESP0001-023M	TACT SWITCH(PROGRAM)	
	S824	ESP0001-023M	TACT SWITCH(RANDOM)	
	S825	ESP0001-023M	TACT SWITCH(OPEN/CLOSE)	
	S826	ESP0001-023M	TACT SWITCH(PLAY/PAUSE)	
	S827	ESP0001-023M	TACT SWITCH(JUST EDIT)	
	S828	ESP0001-023M	TACT SWITCH(▶▶|)	
	S829	ESP0001-023M	TACT SWITCH(|◀◀)	
	S830	ESP0001-023M	TACT SWITCH(SIDE A/B)	
	EP006	EMZ4002-001Z	EARTH PLATE	
	EP007	EMZ4002-001Z	EARTH PLATE	
	FW601	EWR39B-40LST	FLAT WIRE ASSY(15PIN)	
	JA703	EMV7123-021	CONNECT TERMINAL(21PIN)	
	JT926	EMV7122-004	CONNECT TERMINAL(9PIN)	
	JT927	EMV7122-005	MALE CONNECTOR(7PIN)	
	XT601	VCX5016-934V	CRYSTAL	

⚠ : SAFETY PARTS

Accessories List

⚠	Part Number	Part Name	Q'ty	Description	Areas
	E30580-2042ABS	INSTRUCTION BOOK	1		BS
	E30580-2043A	INSTRUCTION BOOK	1		EF
	E30580-2043A	INSTRUCTION BOOK	1		G
	E30580-2043A	INSTRUCTION BOOK	1		GI
	E30580-2044A	INSTRUCTION BOOK	1		EN
	E30580-2045A	INSTRUCTION BOOK	1		VX
	BT20060	WARRANTY CARD	1		BS
	BT-20134	WARRANTY CARD	1		G
	BT-20066A	ECC AGENCY	1		BS
	E43486-340A	SAFETY SHEET	1		BS
	EQB4001-015	LOOP ANTENNA	1		
	EWP502-005K	BUILT-IN ANTENNA	1		BS
	EWP502-005K	BUILT-IN ANTENNA	1		EF
	EWP502-005K	BUILT-IN ANTENNA	1		EN
	EWP502-005K	BUILT-IN ANTENNA	1		GI
	EWP502-005K	BUILT-IN ANTENNA	1		VX
	E67007-001	ANTENNA WIRE	1		G
	EMZ2001-014	ADAPTOR PLUG	1		BS
	EMZ2001-014	ADAPTOR PLUG	1		EF
	EMZ2001-014	ADAPTOR PLUG	1		EN
	EMZ2001-014	ADAPTOR PLUG	1		GI
	EMZ2001-014	ADAPTOR PLUG	1		VX
	RM-SE48U	REMOTE CONTROLLER	1		
	UM-3DJ2PSA	BATTERY	1		
	E300196-033B	ENVELOPE	1		

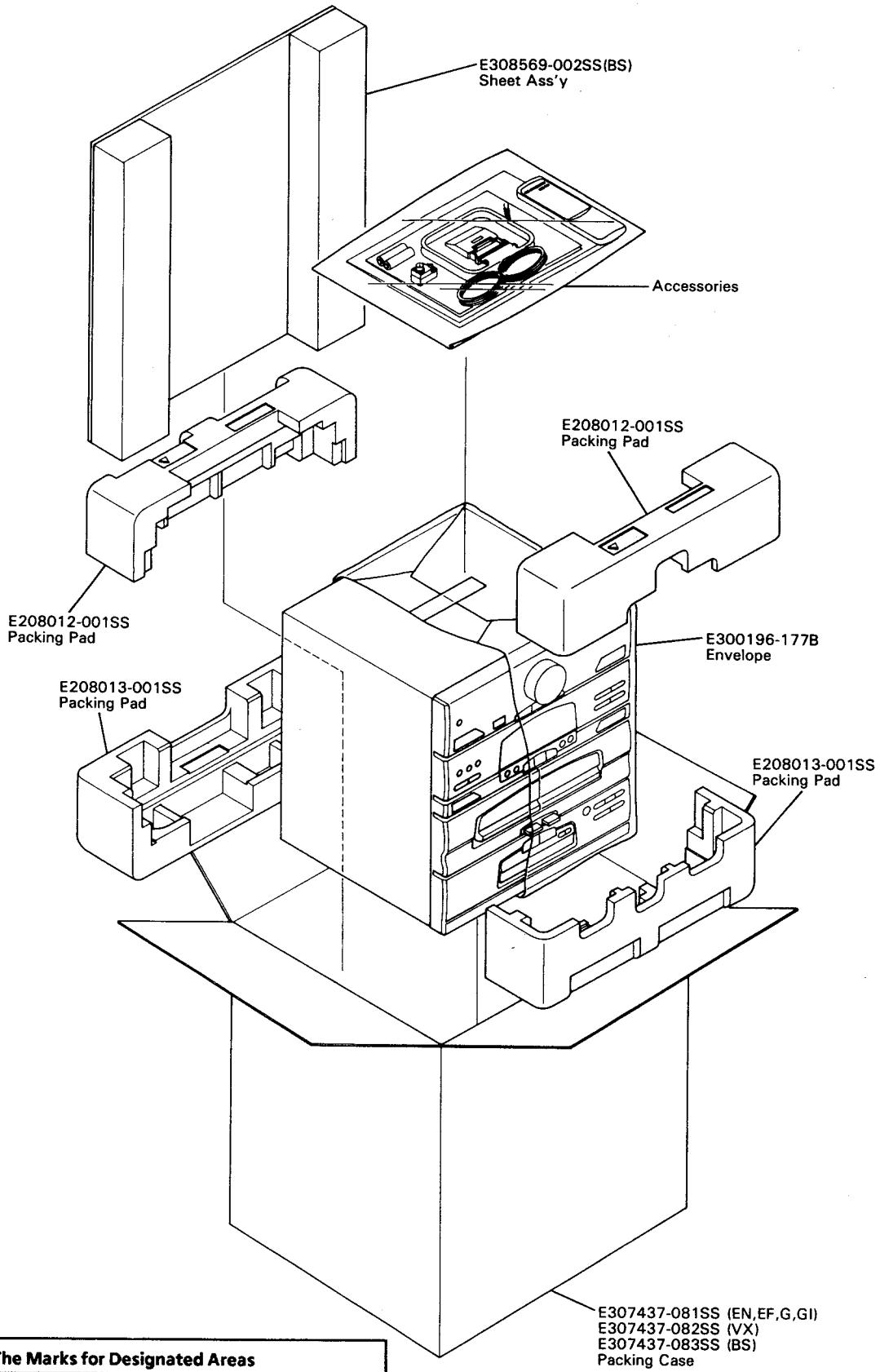
⚠ SAFETY PARTS

The Marks for Designated Areas

EN .... ScandinaviaEF Continental Europe
G ..... Germany
GI .... Itary
VX .... East Europe
BS ..... the U.K.

No mark indicates all areas.

Packing Materials and Part Numbers



The Marks for Designated Areas			
EN	Scandinavia	EF	Continental Europe
BS	the U.K.	G	Germany
GI	Italy	VX	East Europe
No mark indicates all areas.			